

Rio Verde Village Planned Area Development

River Road and Craycroft Road Tucson, Arizona

Submitted to:

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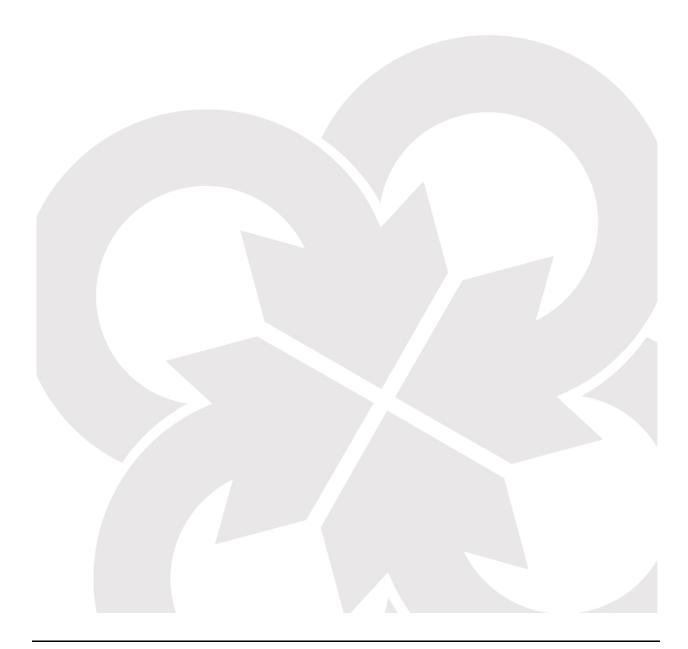
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I. Introduction

A. Background

The Rio Verde Village Planned Area Development is located within the Catalina Foothills at the southeast corner of River Road and Craycroft Road. The subject property was recently annexed into the City of Tucson, and thus given translational zoning categories of RX-1, C-1 and SR. A change in zoning to Planned Area Development (PAD) is requested for development of the site.

The Catalina Foothills holds the 5th highest per capita income in the state and the area has experienced significant residential growth over the past several vears with little commercial and office development to service the community. As a result, residents have found themselves driving extended distances to do their shopping and to commute to work, with average commute times for most of the area's residents range from fifteen (15) to thirty-five (35) minutes. Based on a statewide average, the area is underserved in its number of grocery convenience stores. super-centers, stores and restaurants.

See Exhibit I.A: Regional Context, page 5.

B. Project Overview

The Rio Verde Village Planned Area Development is located on the southeast corner of River and Craycroft Roads in Tucson, Arizona. The portion of the site adjacent to Craycroft Road is currently vacant. The southeastern portion of the site serves as a private residence.

See Exhibit I.B: Local Context, page 6.

With today's busy lifestyles, Tucsonans are seeking destination live, work and play experiences that allow them to complete their errands, go to work, and experience recreational opportunities without having to drive long distances between uses. The mixed development at the Rio Verde Village seeks to meet the needs of today's busy Tucsonans while also providing a quality shopping, dining, lodging, housing and recreational experience for users of Rio Verde Village to enjoy.

Today's creative-mind workforce can choose to live anywhere in the world. As a result, companies are finding it necessary to locate their businesses in desirable areas like the Catalina Foothills in order to attract quality employees. The creation of a mixed use community within the area will help Tucson to continue to offer a competitive business environment for companies to attract such employees.

C. Intent

The City of Tucson's Planned Area Development Zone designation allows owners of large tracts of land to comprehensively develop the land with mixes of land uses and development standards that are not available through the traditional Land Use Code zoning classifications. The City's current Land Use Code is structured for a more traditional separation of residential, commercial and industrial development land uses.

The Rio Verde Village Planned Area Development will allow for the comprehensive planning of a mixed use development center that will encourage residents to live, work and play in the beautiful Catalina Foothills. This will benefit the community by enhancing resident's quality of life and creating

sustainable commercial and residential choices within one development.

The Rio Verde Village PAD provides guidance for the comprehensive and integrated planning of a mixed use development on the site. The following factors are important to the success of this development:

- Develop a mixed use center that creates a more livable, pedestrianfriendly community;
- Cluster work places and shopping developments with convenient access to residential communities to contribute to the quality of life and employment opportunities for the local workforce:
- Utilize existing infrastructure in the development of the Rio Verde Village;
- Advance the economic sustainability of the area through the creation of additional tax revenues;
- Provide complementary civic and hospitality uses; and
- Provide a mix of residential uses in an area currently consisting of low density single family residential and apartments.

This PAD shall serve as the primary for controlling mechanism development of Rio Verde Village. In accordance with Section 2.6.3 of the Land Use Code, the PAD standards herein supersede the standards of the Land Use Code. Where specific references to LUC standards are provided, those reference the LUC standards in existence on the date this PAD is approved by the Mayor and Citv of Council. The Development Standards shall apply except where modified herein. Where the PAD is silent, the LUC provisions

for the C-2 and R-2 zone and other relevant City standards shall control.

D. Conformance with the General Plan and City Land Use Plans

The project lies within the boundaries of the City of Tucson's General Plan and falls under the Master Planned Communities Land Use. The Rio Verde Village PAD will offer a mixed use area that is designed to integrate office and commercial services as well as residential choices.

Element 1: Evolving Edge Growth Area of the City of Tucson's General Plan states:

"Support compact development patterns which minimize the need for additional public facilities"

"Support a mix of housing types and opportunities throughout the Evolving Edge Growth Area to meet the diverse needs of the residents."

"Expand the regional trail system and connect it with the Pima County system."

The PAD is located in an infill area surrounded by existing development, two major roads and the Tanque Verde Creek. The proposed mix of residential, commercial and office uses create a development pattern compact minimizes the need for additional public facilities. The project also provides a mix of housing types in an area currently dominated by single family residential. Additionally, a vital connection to the Pima County's regional trail system the "Urban Loop" will be accommodated near the southwest corner of the site, providing connectivity between the Rillito and Pantano River Parks.

Element 2: Land Use of the City of Tucson's General Plan states:

"The recurrent nonresidential theme focuses on grouping commercial uses in nodes or mixed use-activity centers. the integration of Again, particularly in mixed-use centers, or village centers, is emphasized as one to create a more pedestrian-friendly community. addition, increasing residential uses and density in and around activity centers will provide a local market for commercial services."

Element 3: Circulation of the City of Tucson's General Plan states:

"The factors considered in the development of а comprehensive transportation and circulation plan include supporting the economic viability of the area, increasing the safety of the transportation system, and improving accessibility and mobility options for people and freight."

The PAD mixed use land use plan supports economic viability while providing for accessibility to additional employment opportunities as well as good and services.

Element 4: Community Character and Design of the City of Tucson's General Plan states:

"Support infill and redevelopment projects that reflect sensitivity to site and neighborhood conditions and adhere to relevant site and architectural design guidelines."

"Promote residential development that reinforces Tucson's character and

enlivens and provides market support for existing regional and neighborhood activity centers and nodes."

"Promote quality in design for residential, commercial, industrial, mixed-use, and publicly-funded development.

"All development should incorporate environmentally sensitive design that protects the integrity of existing neighborhoods, complements adjacent land uses, and enhances the overall function and visual quality of the street, adjacent properties, and the community."

The PAD is located at the southeast corner of two major roads: River and Craycroft Roads and is surrounded by existing development. The proposed mix of residential, commercial and office uses support a development pattern that reflects sensitivity to surrounding wash area to the south and adjacent neighbors. The commercial will be located towards the major streets, and then transitions to office and lodging uses, proposed residential uses will be strategically located along the eastern portion of the site adjacent to existing residential uses. In addition, design standards will be submitted as an extension of this document in order to establish common theme and design elements that will be used throughout the project area. Off-site mitigation will enhance an area adjacent to the Tangue Verde Creek, restoring an area that has been degraded from wildfires in the past, creating visual appeal and enhancing its habitat value.

Element 10: Parks, Recreation, Open Space and Trails of the City of Tucson's General Plan states:

Provide an interconnected urban trail network for bicyclists and walkers based on enhanced roadways and incorporating appropriate natural and improved washes.

The PAD supports on-site pedestrian paths connecting the mixed use and residential areas (Manor and Market districts) as well as providing a connection to the future Tanque Verde River Trail and the "Urban Loop" connection proposed near the southwest portion of the site connecting Rillito and Pantano River Parks.

Element 13: Economic Development of the City of Tucson's General Plan states:

"The region will enjoy benefits from new economic opportunities and improved services... The Vision business foresees continued expansion of the activities trade and service currently constitute the largest economic sector... Clustered work places and shopping developments with convenient access to residential communities will contribute to the employment quality of life and opportunities for the local workforce. "

Element 14: Environmental Planning and Conservation of the City of Tucson's General Plan states:

"Continue to identify and protect environmentally sensitive natural areas and encourage the preservation of vegetation and wildlife within these areas."

Although the project will impact existing riparian habitat along the unnamed tributary wash, mitigation for these impacts will provide enhanced riparian habitat and vegetation to the Tanque

Verde Creek area. The off-site mitigation area is within the annexation district boundary located on the south side of the Tanque Verde Creek. This mitigation will restore vegetation lost to past human activity and wildfire fires, restoring and enhancing wildlife habitat on this confluence of two major washes.

The Rio Verde Village PAD seeks to provide and expand upon the City of Tucson's *Vision* as outlined in the General Plan.

E. Compatibility with Adjoining Land Uses

The Rio Verde Village PAD is compatible and complementary to adjoining land uses.

To the north of the PAD is the River Center, a shopping center featuring a pharmacy, restaurant and retail shops and a public library.

To the south is the Tanque Verde Creek and to the east are single family residential uses. Uses at the Rio Verde Village will complement the uses across the street and enhance the commercial options for area residents.

To the east of the Rio Verde Village is existing residential development. To ensure compatibility with this adjoining land use, the PAD plans for residential development adjacent to this area.

Across Craycroft Road to the west of the property is a drainage channel owned by Pima County, running parallel to Craycroft. To the west of the channel is a single family residential subdivision.

See Exhibit II.A: Existing Development, page 9.

Exhibit I.A: Regional Context

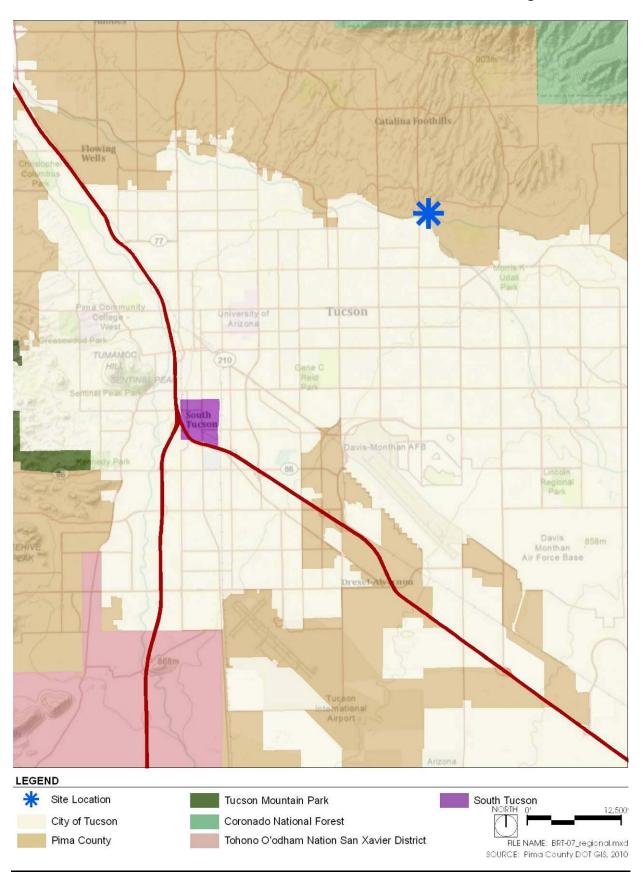
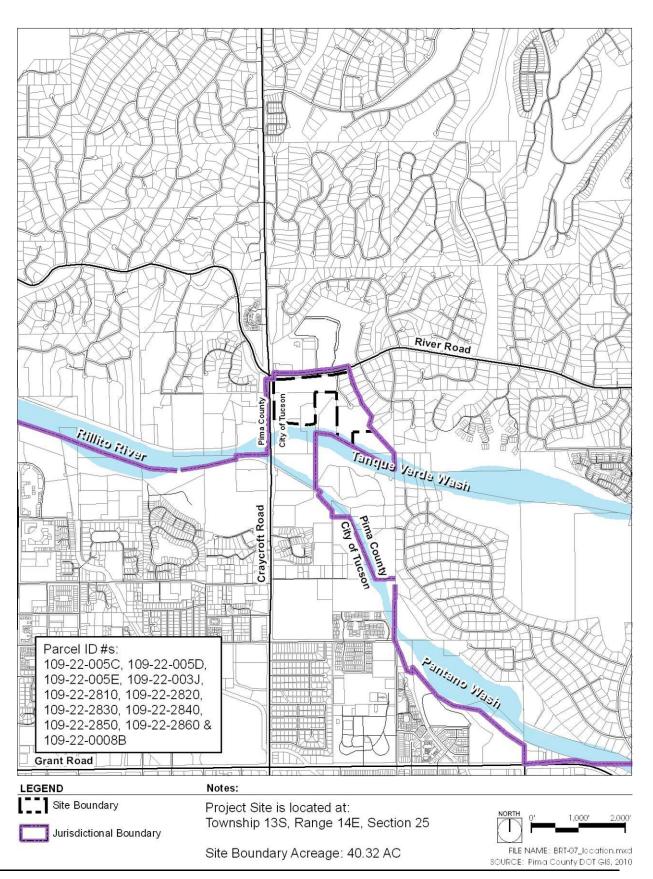
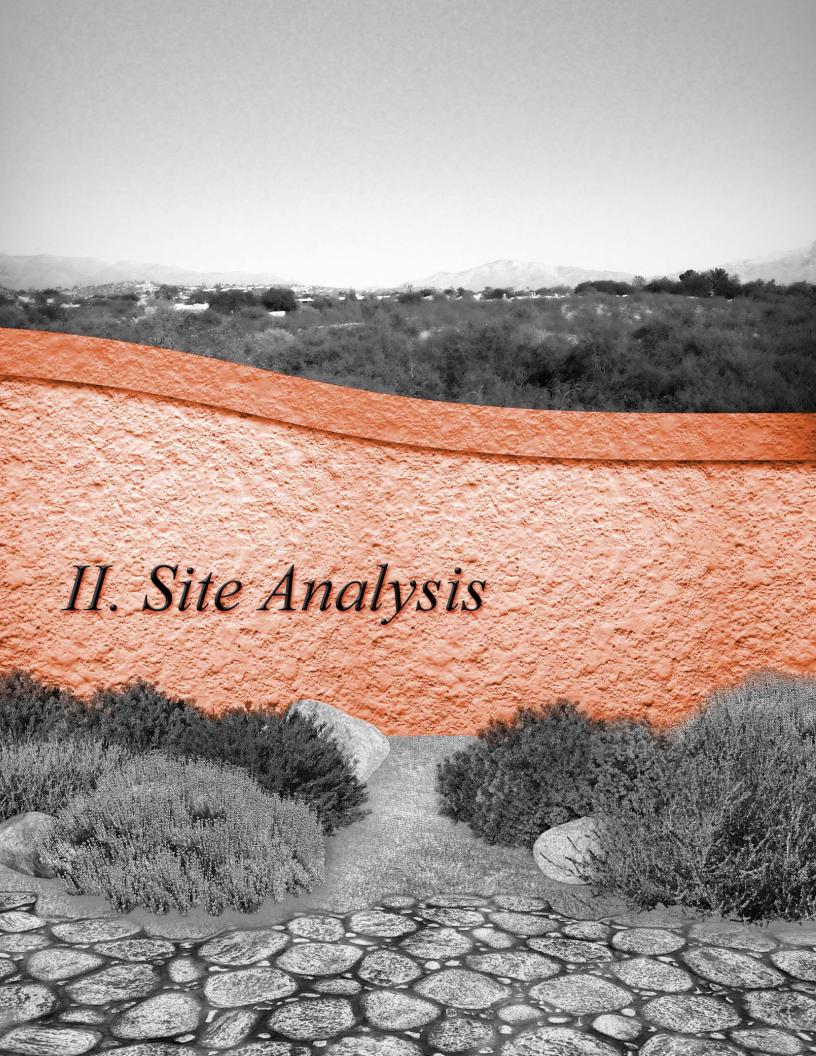


Exhibit I.B: Local Context





Α. **Existing On-Site Development**

Except for a single-family residence in the southeastern corner of the property, the site is currently vacant. A Development Plan was approved in Pima County in April 2011 for commercial development, called the Rio Verde Village (P1210-022), on the northwest corner of the site. It is anticipated that the NW corner (gas station/convenience store) will be developed prior to the approval of the PAD; the remainder of the development plan area would be modified by this PAD and eventually superceded by an alternate Development Plan.

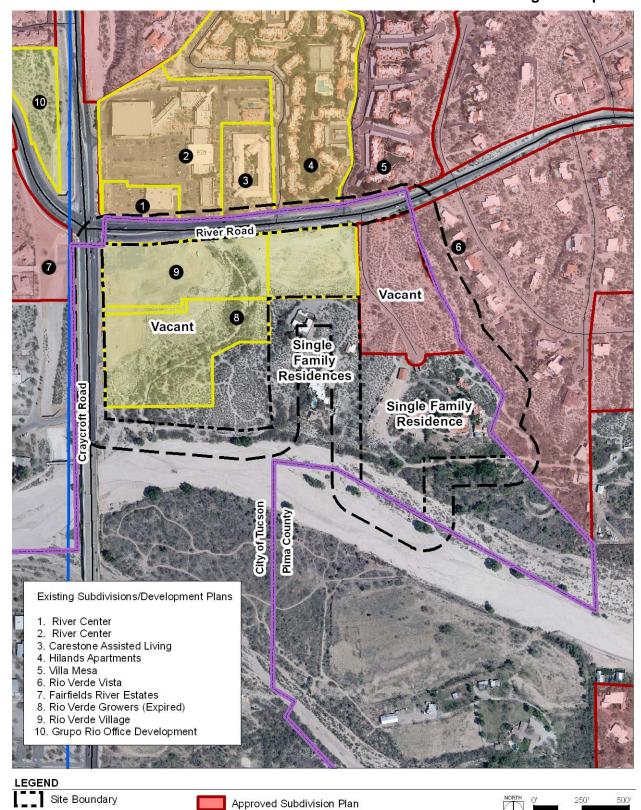
See Exhibit II.A: Existing Development, page 9.

B. **Existing Off-Site Development**

To the east of the Rio Verde Village is the Rio Verde Vista development. Villa Mesa, the Hilands Apartment Buildings, Carestone Assisted Living and the River Center are all located to the north of the Rio Verde Village, across River Road. The Fairfield River Estates development is located to the west of the site, across Craycroft Road. The Tanque Verde Creek is located to the south of the site. See Exhibit II.A: Existing Development, page 9.

Table II.B: Existing Uses

Project Site	Residential & Vacant (Rio Verde Village Proposed Development Plan, P1210-022, anticipated for a Gas Station/Convenience Store Development in the northwest corner of the site)						
North	Single Family Residential, Multi-Family Residential, Commercial						
South	Tanque Verde Creek						
East	Single Family Residential						
West	Single Family Residential						



Jurisdictional Boundary

150-Foot Radius

Approved Development Plan

Exhibit II.A: Existing Development

SOURCES: Pima County DOT GIS, 2012 Aerial Imagery: PAG, 2008

FILE NAME: BRT-07_existing_land_uses.mxd

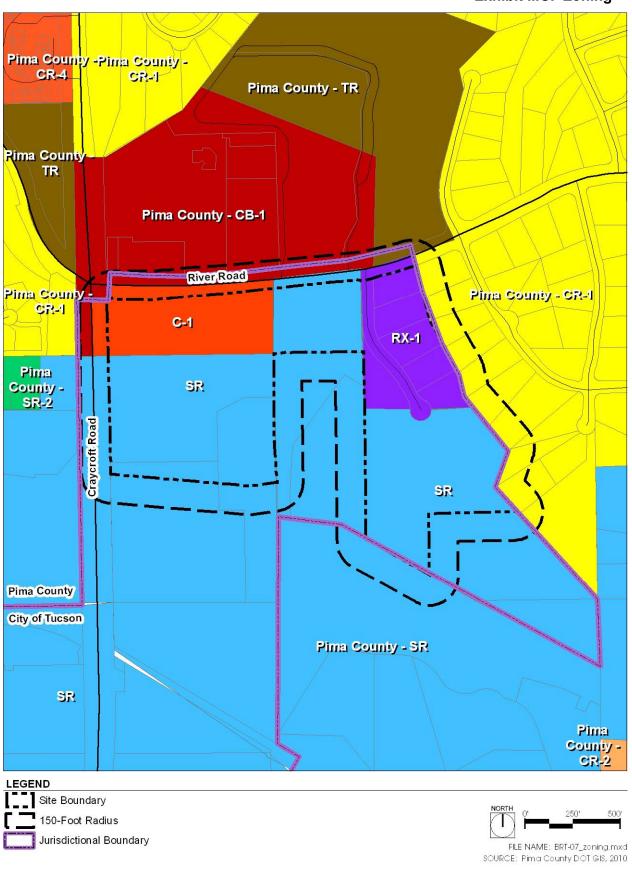
C. Existing Zoning

The existing zoning designation on the project site is "SR," Suburban Ranch, "C-1," Business (Nonresidential) and "RX-1," Residence. The zoning designations of surrounding properties, as depicted in Exhibit II.C: Zoning, on page 11, are as follows:

Table II.C: Adjacent Zoning

	Pima County: CB-1 (Local Business Zone),				
North	Pima County: TR (Transitional Zone)				
South	South Pima County & City of Tucson: SR (Suburban Ranch Zone)				
East Pima County: CR-1 (Single Residence Zone)					
West	Pima County: SR (Suburban Ranch Zone)				

Exhibit II.C: Zoning



D. Public, Educational, Community and Cultural Facilities

1. Schools Abutting the Project Site

The Site falls within the Tucson Unified School District. Schools located within a mile of the Site are listed in the following table:

Table II.D: Existing Schools within a One-mile Radius

School	Туре	Class
Saint Gregory College Preparatory School	Private	High School
Castlehill Country Day School	Private	Pre-K - 5
Whitmore Elementary School	Public	Elementary

See Exhibit II.D.1: Existing Schools, page 14.

2. Parks, Trails and Public Land

Fort Lowell Park is located approximately 0.6 miles from the southern boundary of the project site. Fort Lowell Park features racquetball courts, a historical museum, a jogging path, public art and a pond. Features in Fort Lowell Park also include a swimming pool, lighted soccer fields, tennis courts and baseball fields.

To the west of Craycroft Road is the Rillito River Park. The Rillito River Park winds through the City of Tucson along the Rillito riverbed. An asphalt trail is constructed along the north site of the river and is used by walkers, joggers, skaters and cyclists. The path includes underpass ramps under major roadways to provide grade separated crossings for users.

West of the Craycroft Road bridge at the Rillito River Park there is a fully developed trail head. This trail head includes parking, restrooms, plazas, seating areas, and multiple access points to the River Park. These features are located within approximately 500 feet of the PAD, therefore are available to support any River Park development east of Craycroft Road.

East of the site, upstream of Craycroft Road the Rillito branches into two watercourses, the Tanque Verde Creek and the Pantano Wash. The Tanque Verde Creek is located directly south of the project site.

The land on the Tanque Verde Creek and the Pantano Wash, immediately upstream from the Craycroft Road Bridge, is privately owned. There is no public trail in this area and no trail improvements; although master plans indicate future trails along both the Tanque Verde and Pantano Wash. Nevertheless, the wash is used by equestrians and some pedestrians.

See Exhibit II.D.2: Public Facilities and Services, page 15.

3. Fire Stations

There are no fire stations within a one-mile radius of the project site.

4. Police Stations

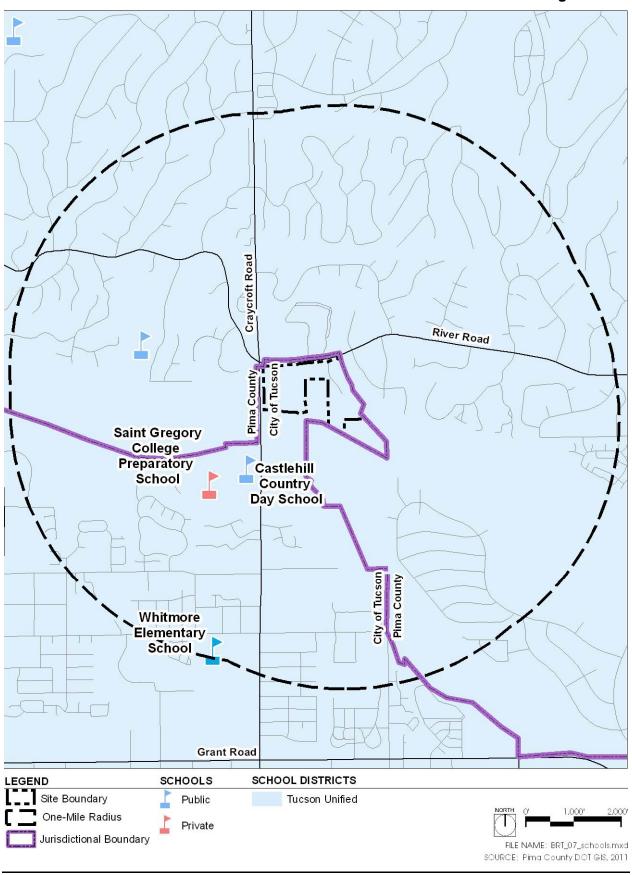
The police station that will provide service to the site is the City of Tucson's Rincon Substation, located at 9670 East Golf Links Road.

5. Hospitals

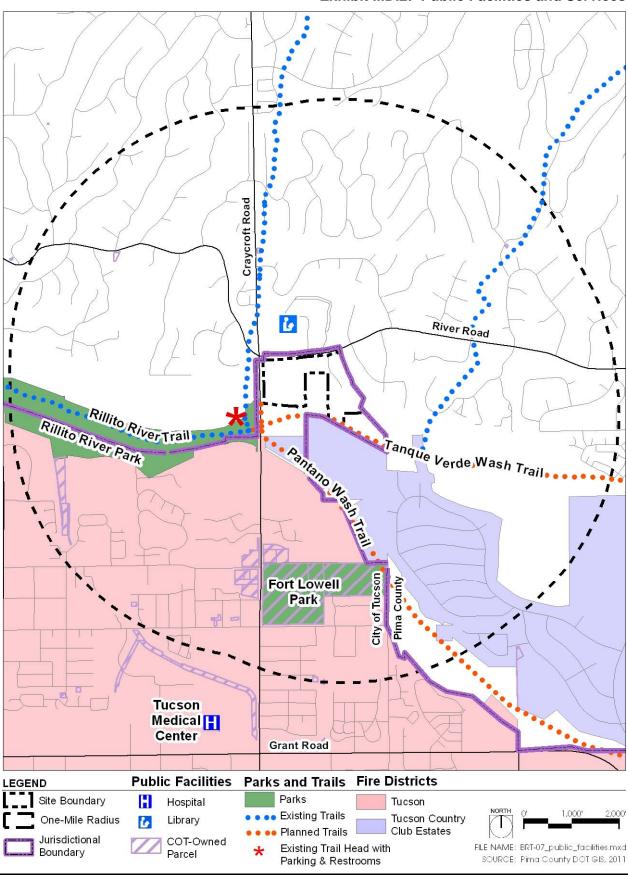
The nearest hospital is Tucson Medical Center, located at 5301 East Grant Road, approximately 1.75 miles southwest of the project site. A private hospital, Tucson Medical Center has 650 licensed beds at the Grant location.

See Exhibit II.D.2: Public Facilities and Services, page 15.

Exhibit II.D.1: Existing Schools







E. Existing Infrastructure

1. Sewer

A 30" gravity main sewer line, G-68-25, runs along the southern portion of the project boundary and an 8" gravity main, G-79-62, runs within the project boundary along the east side. A sewer stubout was provided at the northwest corner of the project site as part of the recent Craycroft Road intersection improvements by plan G-2006-131, to serve the northwesterly portion of the project.

Pima County Regional Wastewater Reclamation Department allocates system capacity at the Ina Road Water Reclamation Facility to new developments on a first-come/first-serve basis. Capacity is currently available at several points around the site.

See Exhibit II.E.1.a: Existing Utilities, page 18 and Exhibit II.E.1.b: Wastewater Service Letter, page 19.

2. Water

According to the Pima County Department of Transportation Geographical Information Services and Arizona Department of Water Resources (ADWR), there is one well located just south of the project site, #514359. The well is currently registered for domestic water production. See Exhibit II.E.1.a: Existing Utilities, page 18.

The closest reclaimed water line is located at St. Gregory College Preparatory School, located approximately 2,000 feet from the project site.

The City of Tucson Water Department stated in a letter dated September 15, 2010 that Tucson Water will provide water service to the eastern 9.99 acres of this project based on the subject zoning. Tucson Water has an assured water supply (AWS) designation from ADWR. Multiple water stubouts were provided along Craycroft and River Roads as part of the recent Craycroft Road intersection improvements to serve the anticipated water needs for the project. See Exhibit II.E.2: Water Service Letter, page 20. As a result of annexation into the City of Tucson, Tucson Water will provide water service to the PAD.A water service agreement will be required to establish service to the property.

3. Solid Waste Disposal and Recycling

Solid waste and recycling will be provided by the City of Tucson.

4. Private Utilities

Facilities currently exist along Craycroft and River Roads, directly adjacent to the project site. Electricity, natural gas and telecommunications will be extended to the project site at the time of development through agreements with individual utility companies. The following utility companies currently serve the area:

Electricity: Tucson Electric Power

Telephone: Cox Communications

Natural Gas: Southwest Gas

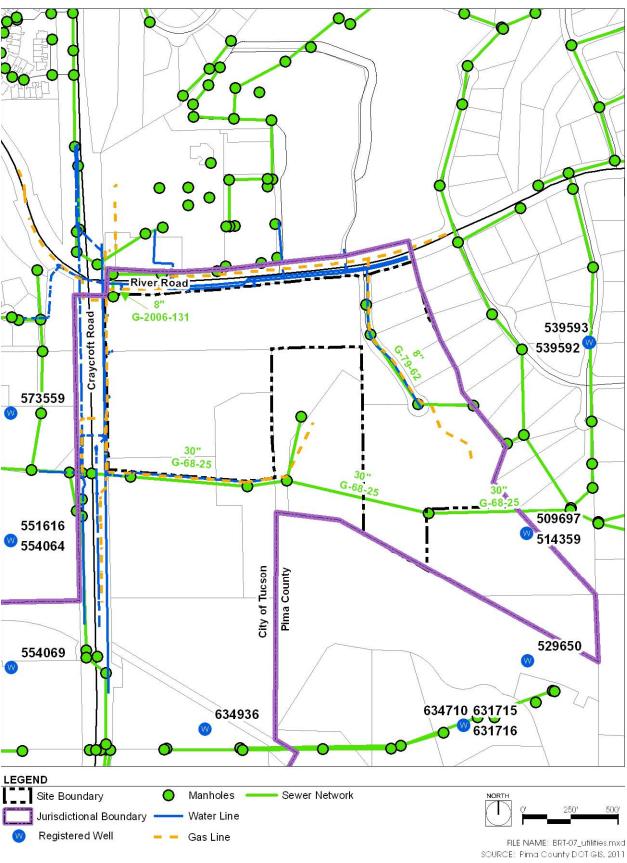


Exhibit II.E.1.a: Existing Utilities

Exhibit II.E.1.b: Wastewater Service Letter



Pima County Regional Wastewater Reclamation Department

Michael Gritzuk, P.E. Director 201 N. Stone Ave., 8th Floor Tucson, Arizona 85701 (520) 740-6500

Visit our website: http://www.pima.gov/wwm

November 16, 2010

Ms. Raquel Goodrich The Planning Center 110 S. Church, # 6320 Tucson, AZ 85701

Capacity Response No. 10-177 Type I

RE: Rio Verde Village PAD, on Parcels #109-22-005C, -0050, -005E, -003J, -2810, 2830, -2840, -2850, -2860 & -008B.
Estimated Flow 29,900 gpd (ADWF).

Greetings:

The above referenced project is tributary to the Ina Road Wastewater Reclamation Facility via the North Rillito Interceptor.

Capacity will become available for this project upon the completion of the RWRD Plant Interconnect, anticipated for December of 2010.

This letter is not a reservation or commitment of treatment or conveyance capacity for this project. It is an analysis of the system as of this date and valid for one year.

Note: Conditions within the public sewer system constantly change. An update to this letter must be obtained to verify that capacity exists in the downstream public sewer system just prior to submitting the development plan or subdivision plat for review and approval.

If further information is needed, please feel free to contact us at (520) 740-6500.

Respectfully,

Mary Hamilton, P.E.

PCRWRD Planning Section Manager

MH:ks

Exhibit II.E.2: Water Service Letter

September 15, 2010



Pima County Development Services Department Planning Division, Subdivision Coordination 201 N. Stone Ave, Second Floor Tucson, AZ 85701-1207

CITY OF TUCSON TUCSON WATER DEPARTMENT Attn: LH

SUBJECT: Water Availability for project: Rio Verde Village, APN: 10922003J, Case #: N/A,

Lots: 9999, Location Code: , Total Area: 9.99ac, Zoning: SR

WATER SUPPLY

Tucson Water will provide water service to this project based on the subject zoning of the above parcels. Tucson Water has an assured water supply (AWS) designation from the State of Arizona Department of Water Resources (ADWR). An AWS designation means Tucson Water has met the criteria established by ADWR for demonstration of a 100-year water supply – it does not mean that water service is currently available to the subject project.

WATER SERVICE

The approval of water meter applications is subject to the current availability of water service at the time an application is received. The developer shall be required to submit a water master plan identifying, but not limited to: 1) Water Use; 2) Fire Flow Requirements; 3) Offsite/Onsite Water Facilities; 4) Loops and Proposed Connection Points to Existing Water System; and 5) Easements/Common Areas.

Any specific area plan fees, protected main/facility fees and/or other needed facilities' cost, are to be paid by the developer. If the existing water system is not capable of meeting the requirements of the proposed development, the developer shall be financially responsible for modifying or enhancing the existing water system to meet those needs.

This letter shall be null and void one year from the date of issuance.

Issuance of this letter is not to be construed as agency approval of a water plan or as containing construction review comments relative to conflicts with existing water lines and the proposed development.

If you have any questions, please call New Development at 791-4718.

Sincerely,

Joseph G. Olsen, P.E. Planning Administrator Tucson Water Department Post-it° Fax Note 7671 Date | -29 | # of pages | Co./Dept. | From Co. | Phone # | Phone # 791 - 4718 | Fax # 622-1950

JGO:bjp CC:File

WATER

NEW DEVELOPMENT • P.O. BOX 27210 • TUCSON, AZ 85726-7210 (520) 791-4718 • FAX (520) 791-5288 • TTY (520) 791-2639 • www.cityoftucson.org

A

100/100

NEW DEVELOPMENT

11/29/2010 13:55 FAX 5207912501

F. Major Transportation and Circulation

1. Adjacent Roadways

Craycroft Road runs along the west side of the project site while River Road runs along the project site's northern boundary. North Calle Rosario, a minor local road, runs within the project on the eastern portion of the site.

2. Current and Future Right-of-Way

River Road has a current varying width right-of-way and Pima County's Major Streets and Routes Plan indicates a future 150-foot right-of-way adjacent to the project site. However, both Pima County and the City of Tucson have acknowledged that the current ROW is sufficient and will not require further dedication. The current and future right-of-way for Craycroft Road adjacent to the project site is also 150 feet.

See Exhibit II.F: Existing Circulation, page 23.

3. Scenic Corridor Zone

The project site is subject to the Scenic Corridor Zone (SCZ) from both River and Craycroft Roads. The SCZ extends to a depth of four hundred (400) feet and places additional restrictions on development such as requirements for a roadway buffer area, structure height limitations, siting specifications and signage restrictions.

4. Access Points

Access to the Rio Verde Village PAD is via Craycroft Road on the western portion of the project site and River Road on the northern portion of the project site. Access to the eastern residential portion of the property is via Calle Rosario.

5. Alternate Modes of Transportation

Bike lanes are located along River and Craycroft Roads adjacent to the project site. SunTran operates an existing public transit route, Craycroft/Fort Lowell Route #34 just under one (1) mile from the project site. The route incorporates a planned stop at Craycroft Road and East Glenn Street, also just under one (1) mile from the project site.

See Exhibit II.F: Existing Circulation, page 23.

6. Roadway Characteristics

Based on the Pima County Geographic Information System (GIS) and the Federal Highway Administration's Functional Classification Map for Pima County, River Road is classified as an Urban Minor Arterial. South of River Road, Craycroft Road is classified as an Urban Principal Arterial. North of River Road, Craycroft Road is classified as an Urban Minor Arterial. According to the Pima County Major Streets and Routes Map, both River and Craycroft Roads are classified as a Scenic Major Route.

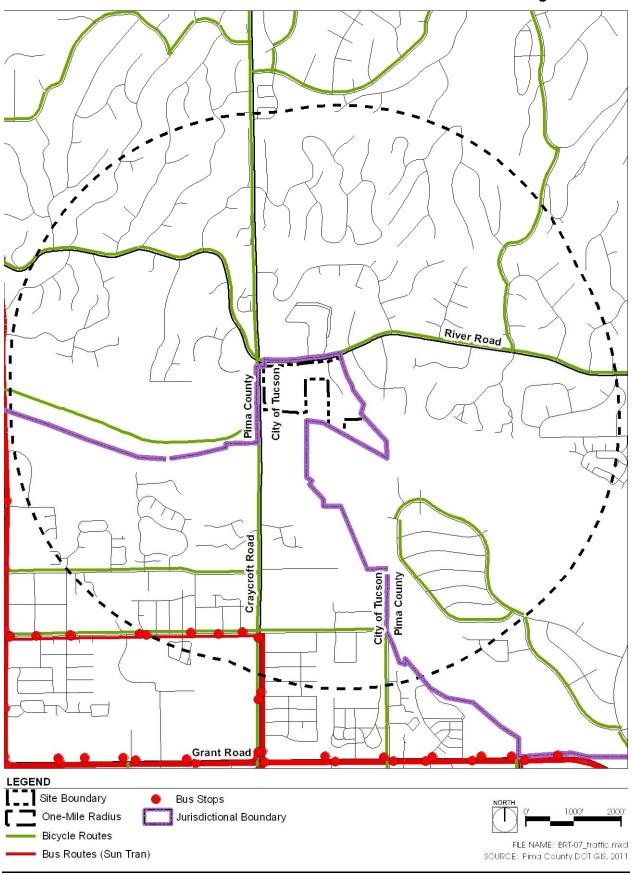
The two existing single family residential homesites located to the south of the property have access to River Road via an access easement to Calle Rosario. The surrounding transportation network is indicated on Exhibit II.F: Existing Circulation, page 23; attributes of the adjacent roadways are summarized below in Table II.F: Roadway Characteristics.

Additional information regarding traffic volumes and levels of service has been provided in the Traffic Study for Rio Verde Village along River Road and Craycroft Road, November 2010, prepared by Kimley-Horn and Associates, Inc.

Table II.F: Roadway Characteristics

Roadway	Functional Class	# Lanes	Divided	Bike Route	Bus Route	Curb & Gutter	Sidewalk	Paved	Average Daily Trips
North Craycroft Road	Urban Principal Arterial & Scenic Major Route	4	No	Yes	No	Yes	Provided on west side of roadway; none along site frontage	Yes	.32 miles of River Road to River Road: 24,592 (April 2010)
East River Road	Urban Minor Arterial & Scenic Major Route	2	No	Yes	No	Not Entire Length	Provided on north side of roadway; none along site frontage	Yes	Craycroft Road to Tanuri Drive: 15,401 (March 2010)
Calle Rosario	Minor	2	No	No	No	No	No	Yes	Not Available

Exhibit II.F: Existing Circulation



G. Hydrology, Water Resources and Drainage

1. Off-Site Watersheds

There are 3 offsite watersheds that affect all or portions of the project site:

- The first is the Tanque Verde Creek, which is located along/near the southerly boundary of the site. Per FEMA's Flood Insurance Study of September 30, 1992, the Tanque Verde Creek along the project boundary is estimated to have a 100 year discharge of 34,000 cfs, and per FIRM panel #04019C1663K, the FEMA "A" floodplain is generally contained within the existing banks or low-lying overbank areas. Per the City of Tucson standards, an erosion hazard setback for this wash has been calculated at 370 feet from the existing top of bank as identified on Exhibit II.G.1: Existing Condition Hydrology, page 26.
- A second off-site watershed discharges into our site via 2-90" pipe culverts beneath River Road. This watershed lies upstream of the project site into the commercial developments directly adjacent to River Road, and further upstream into the foothills residential developments. This watershed flows into an existing, natural channel that generally flows north to south through the middle portion of the property, and ultimately discharges into the Tanque Verde Creek, just upstream of the Craycroft Road bridge. At the discharge point, this wash conveys 925 cfs in the 100 year storm event, and the flows are contained within the natural wash. An erosion hazard setback for this wash has been calculated at 52 feet from the 100 year FPL and has been identified on Exhibit II.G.1: Existing Condition Hydrology, page 25. Off-site watershed boundaries are shown on Exhibit II.G.2: Aerial Photograph/Off-Site Existing Condition Hydrology, page 27.
- A third off-site watershed discharges into our site via pipe culverts beneath River Road along the eastern edge of the proposed development. This watershed also lies upstream of the project site into the apartment development directly adjacent to River Road, and further upstream into the foothills residential developments. This watershed flows into an existing, natural channel that generally flows north to south along the eastern boundary of the property, and ultimately discharges into the Tanque Verde Creek. At the discharge point, this wash conveys 378 cfs in the 100 year storm event, and the flows are contained within the natural wash. An erosion hazard setback for this wash has been calculated at 20 feet from the 100 year FPL and has been identified on Exhibit II.G.1: Existing Condition Hydrology, page 25. Off-site watershed boundaries are shown on Exhibit II.G.2: Aerial Photograph/Off-Site Existing Condition Hydrology, page 27.

Under existing conditions, the proposed project site discharges from 5 locations to either existing, natural washes and then into the Tanque Verde Creek, or directly into the Tanque Verde Creek. None of these local watersheds create a regulatory discharge, and 2 of these watersheds contribute flow to the on-site washes identified above in the off-site watershed portion of this document. All watershed boundaries and discharges have been identified on Exhibit II.G.1: Existing Condition Hydrology, page 26.

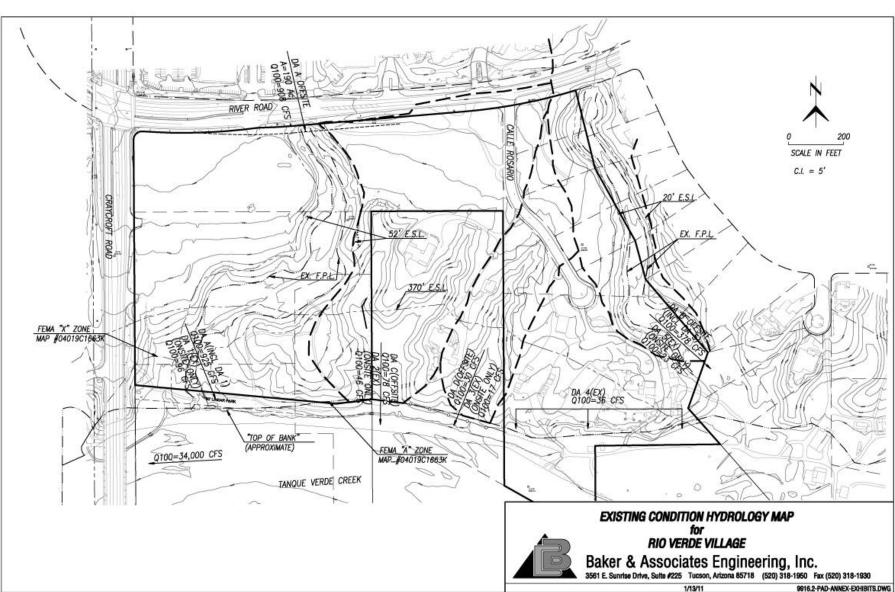


Exhibit II.G.1: Existing Condition Hydrology

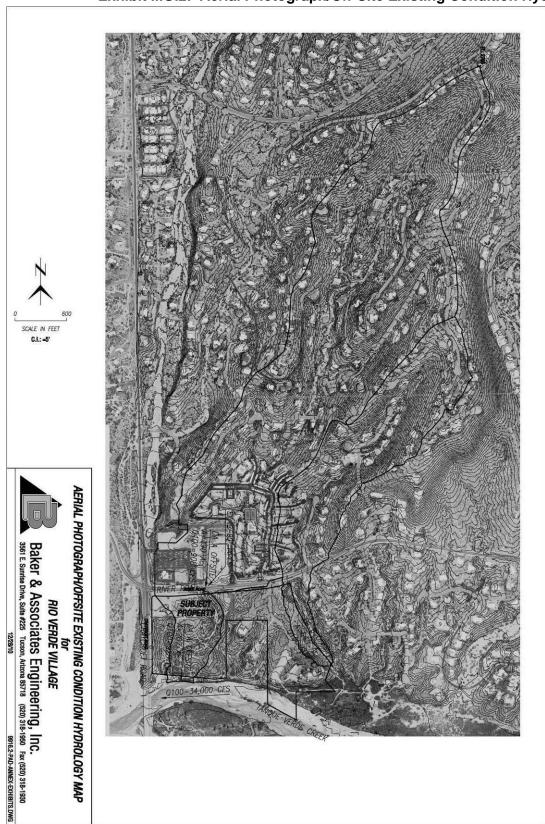


Exhibit II.G.2: Aerial Photograph/Off-Site Existing Condition Hydrology

H. Topography and Slope

The site generally slopes from north to south, with elevations ranging from 2,436 feet along the southern boundary to 2,506 feet at the northern boundary.

The average cross slope of the parcel is 11.65%, as calculated by performing the following calculation:

$$ACS = I \times L \times 0.0023 \times (N-1)$$
A
N

1 = 5'

L = 41,455

A = 40.32 Ac

N = 68

$$ACS = 5 \times 41,455 \times 0.0023 \times (68-1)$$

40.32 68

$$ACS = 11.65\%$$

I. Vegetation and Wildlife

1. Vegetative Communities and Plant Associations On-Site

There are four different vegetation communities and/or plant associations that cover the site, along with areas that are heavily graded or disturbed or contain no vegetation. They are 1) Sonoran Desert Upland, 2) Xeroriparian, 3) Hydro-meso riparian and 4) Mixed Native and Non-Native Landscape.

a. Sonoran Desert Upland

The Sonoran Desert Upland community is mostly comprised of Creosote Bush (*Larrea tridentata*) with limited amounts of Barrel Cacti (*Ferocactus wislizennii*) and Foothills Palo Verde (*Cercidium microphyllum*). In general, the existing vegetation is in fair to good health. The Sonoran Desert Upland community occupies approximately 11.8 acres (approximately 29%) of the site and is located mostly east of the unnamed tributary wash through the western portion of the site and east of the existing Calle Rosario on the eastern portion of the site.

The upland vegetation does not provide significant scenic value or screening as it is located away from the two major roadways adjacent to the site. The upland vegetation provides some wildlife habitat value since it is located on the edge of a larger natural area, but since the site is also in close proximity to existing commercial and high density residential developments on the north side of road and existing single family residential developments immediately adjacent to the site, the overall wildlife habitat of the upland vegetation is not especially important to the region.

b. Xeroriparian Habitat

Xeroriparian Habitat occurs along the unnamed wash running through the western portion of the site from River Road on the north toward the Tanque Verde Creek on the south, and along another wash immediately to the east of the PAD boundary. The majority of the vegetation along this wash includes typical Xeroriparian species of Catclaw Acacia (Acacia greggii), Whitethorn Acacia (Acacia constricta), Velvet Mesquite (Prosopis velutina), Blue Palo Verde (Cercidium floridum), and Foothills Palo Verde (Cercidium microphyllum) and Desert Hackberry (Celtis pallida). There are a few small Cottonwoods (Populous fremontii) near the northern end of the wash that have grown in response to runoff from the culvert and are not indicative of the hydrogeologic conditions typically associated with this species. This area is approximately 6.2 acres (approximately 15 % of the site).

This area is of low to moderate importance to scenic value from view points off site. This is due to the existing topography of the site which has the riparian habitat mostly within the incised banks of the wash, out of view of the two major roadways adjacent to the site.

This area also provides only limited wildlife value. The wash intersects with River Road on the north, runs under River Road, and upstream of River Road is contained in an underground pipe culvert as it flows through an existing commercial development and an existing apartment complex. The wash does not "daylight" for over 1/3 mile from its intersection with River Road, and therefore is not connected to an existing, functional, continuous habitat corridor. At the southern end of the wash it does have a confluence with the Tanque Verde Creek, and provides some benefit to wildlife that use the Tanque Verde Creek as habitat.

c. Hydro/Meso Riparian Habitat

The Hydro/Meso Riparian Habitat occurs in the extreme southeast portion of the site, south of the existing on-site residence. This area is closely associated with the Tanque Verde Creek and includes Cottonwoods (*Populus fremontii*), Arizona Ash (*Fraxinus velutina*) as well as Velvet Mesquite (*Prosopis velutina*). This area also includes a portion of the fringe area of the Tanque Verde Creek river bed. This area is approximately 2.5acres (approximately 6 % of the site).

This area, while possessing some large trees and inherent scenic beauty, is not visible from most of the site or River Road, but somewhat visible from the bridge on Craycroft Road over the Tanque Verde. It has limited value as screening for adjacent properties.

As Hydro/Meso Riparian Habitat, it has value as wildlife habitat. No impacts to this area are proposed.

d. Mixed Native and Non-Native Landscape

The site also includes an area that contains both mixed native and non-native vegetation in a residential landscape context. This vegetation is associated with an existing residence and is lush and mature. This area includes many different species of non-native plants including bermuda grass, olive trees, pine trees, eucalyptus trees, junipers, and oleander, Italian cypress, citrus trees and other ornamental landscape plants typical of residential development from the 1980's. The vegetation is good to very good condition and includes some large, individual specimens of trees that can be seen from Craycroft Road to the west and from the Tanque Verde Creek and properties to the south of the Tanque Verde. This area is approximately 3.8 acres (or approximately 10%) of the site.

e. Disturbed Area

The remainder of the site is disturbed area and contains either no vegetation or areas of desert broom (*Baccharis sarothroides*). The disturbed areas are located west of the tributary wash, north and east of the tributary wash and west of the existing on-site residence. This area is approximately 16.0 acres (or roughly 40% of the site.)

See Exhibit II.I.1: Vegetative Communities, page 32.

2. Wildlife Habitats

The Arizona Game and Fish Department's Online Environmental Review Tool was accessed and current records show that there are three special status species that have been documented within two miles of the project area: Mexican Long-tongued Bat, Arizona Myotis and Stag-horn Cholla. The Federal Wildlife Status listed the Mexican Long-tongued Bat and the Arizona Myotis as Species of Concern (SC). The United States Fish and Wildlife Service and the Bureau of Land Management listed the Mexican Long-tongued bat as sensitive (S), and the State of Arizona listed the Mexican Long-tongued bat as wildlife of special concern (WSC) in Arizona and salvage restricted (SR). The Stag-horn Cholla is listed by the State of Arizona as salvage restricted (SR).

See Exhibit II.I.2: Arizona Game and Fish Letter, page 33.

Exhibit II.I.1: Vegetative Communities

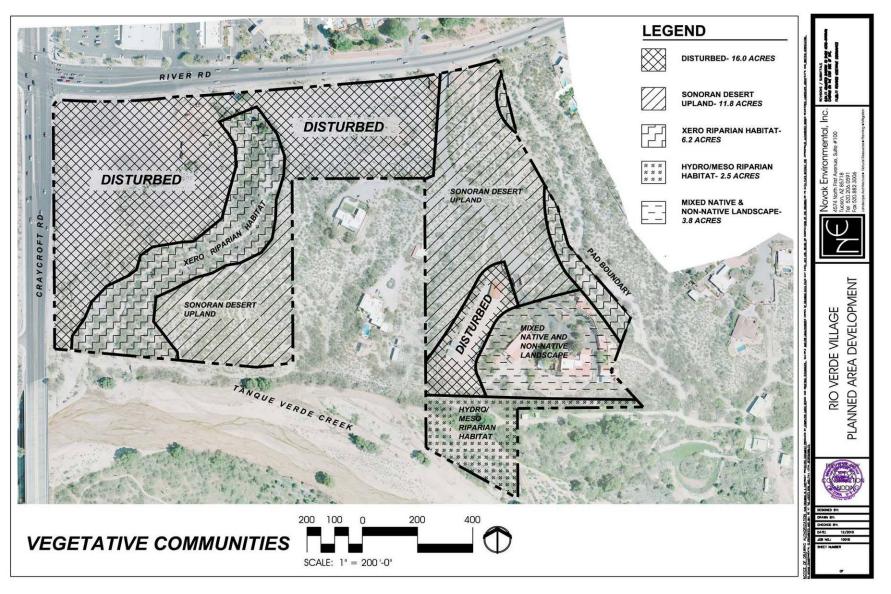


Exhibit II.I.2: Arizona Game and Fish Letter

Project Name: BRT-07 Date: 10/28/2010 1:34:47 PM

Project Location



Project Name: BRT-07 Submitted By: Raquel Goodrich On behalf of: OTHER

Project Search ID: 20101028013539 Date: 10/28/2010 1:34:42 PM

Project Category: Development Within Municipalities (Urban

Growth), Commercial/industrial (mall) and associated infrastructure, New

construction

Project Coordinates (UTM Zone 12-NAD 83): 512084.237, 3570545.026

meter

Project Area: 56.534 acres Project Perimeter: 1999.462 meter

County: PIMA

USGS 7.5 Minute Quadrangle ID: 1726 Quadrangle Name: SABINO CANYON Project locality is not anticipated to change

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

Page 1 of 7 APPLICATION INITIALS:

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Bet Colony	1000				
Choeronycteris mexicana	Mexican Long-tengued Bat	sc	s	s	WSC
Myote occultus	Arizona Myotis	sc			
Opuntia versicolor	Stag-hom Chola	100			SR

J. Soils

The information provided in this section is based on best data available from the Soil Survey for Pima County, Arizona, Eastern Part, 1999 and generalized soil maps based on Soil Survey data available through Pima County Department of Transportation. According to these sources, the site contains two soil types.

Exhibit II.J: Soils, page 36, shows soils associations within the project area. The following descriptions from the United States Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey for Pima County provide information about the characteristics of each soil.

Pinaleno-Stagecoach Complex, 5 to 16 Percent Slopes

This map unit is on strongly sloping fan terraces. The unit is 40 percent Pinaleno very cobbly sandy loam and 35 percent Stagecoach very gravelly sandy loam. Pinaleno soils are on crests and shoulders that have gradients of 5 to 10 percent, Stagecoach soils are on shoulders and backslopes that have gradients of 5 to 16 percent. Included in this unit are small areas of Tubac and Mohave soils on broad summits and Palo Verdes and Jaynes soils on relict fan terraces. Also included are small areas of rubble and talus at the footslopes of mountains. In these areas the rock fragments are 3 to 36 inches or more in diameter. Included areas make up about 25 percent of the total acreage.

The Pinaleno soil is very deep and well drained. Typically, the surface is covered by 30 percent cobble and stones and 20 percent gravel. The surface layer is brown very cobbly sandy loam about 2 inches thick. The upper 28 inches of the subsoil is reddish brown and red extremely cobbly sandy clay loam. The lower 30 inches is pink extremely gravelly sandy clay loam. These soils generally are noneffervescent in the upper solum. In some areas, the surface layer is very gravelly sandy loam.

Permeability of the Pinaleno soil is moderately slow and available water capacity is low. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is slight. The hazard of wind erosion is very slight.

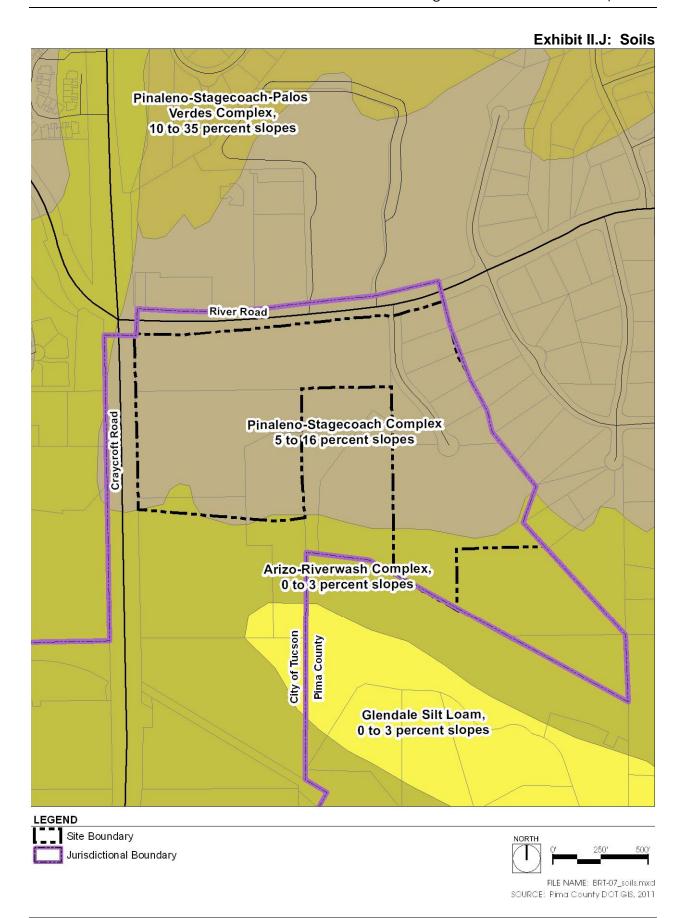
Arizo-Riverwash Complex, 0 to 3 percent slopes

This map unit is 50 percent Arizo gravelly loamy sand and 20 percent Riverwash. Arizo soils and Riverwash occupy bar and channel flood plain physiography. Arizo soils are on higher-lying bars, and Riverwash is in the channel bottoms. Included in this unit are small areas of nearly vertical scarps that have Glendale and Anthony soils on flood plains and stream terraces above Arizo soils. Included areas make up about 30 percent of the total acreage.

The Arizo soil is very deep and excessively drained. Typically, the surface layer is yellowish brown gravelly loamy sand about 18 inches thick. The lower part to a depth of 60 inches or more is light yellowish brown very gravelly loamy sand. These soils are moderately alkaline and calcareous throughout. In some areas, the substratum has less gravel and cobble than is typical. In places, the soil has less lime in the upper part than is typical.

Permeability of the Arizo soil is very rapid. Available water capacity is low. Effective rooting depth is 60 inches or more. Runoff is very slow except during convective thunderstorms in the summer and frontal storms in the winter when runoff from higher positions causes flash flooding. Hazard of water erosion is very high during flash floods. This soil is subject to frequent but brief periods of flooding in both the summer and winter seasons. The hazard of wind erosion is moderately high.

Riverwash consists of unstablized and stratified layers of sand, silt, and gravel. It is so frequently flooded, reworked, and sorted that it supports little if any vegetation. No development in anticipated in these areas consisting of Arizo-Riverwash soils.



K. Viewsheds and Visual Analysis

The Rio Verde Village is located in a developed area, surrounded by commercial/office developments, Tanque Verde Creek, single-family residences and multi-family apartment complexes. The following photographs show existing views onto and across the project site. Exhibit II.K: Photo Key Map, page 39, indicates the locations from which the photos were taken.



Photo 1: Looking southeast from River Road at the River Road/Calle Rosario intersection.



Photo 2: View looking southwest across the site from River Road.



Photo 3: Looking southeast across the site Photo 4: View lookin from the intersection of River and Craycroft from Craycroft Road. Roads.



Photo 4: View looking northeast across the site from Craycroft Road.



Photo 5: Looking southwest at Tanque Verde Creek from Craycroft Road at the southeastern portion of the project site.



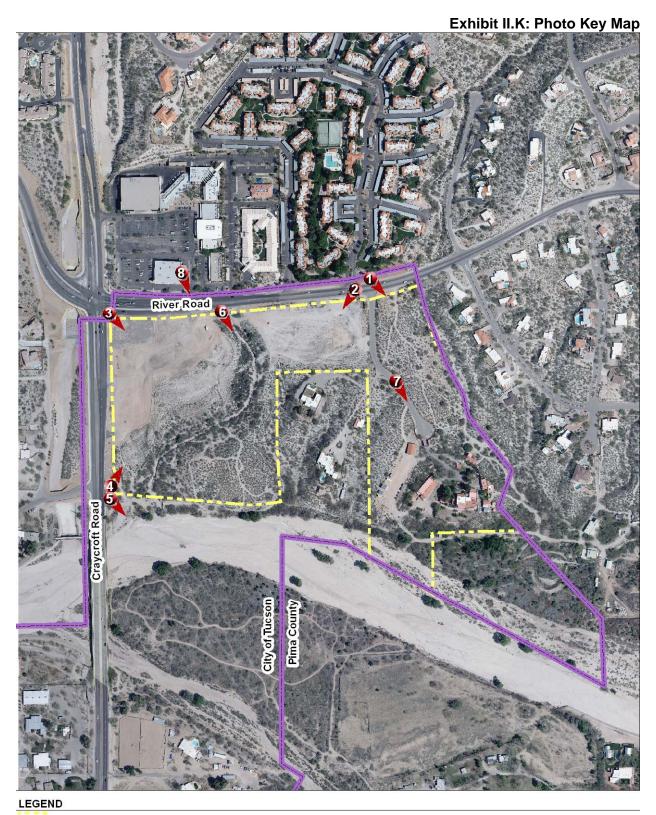
Photo 6: Looking south from River Road toward the onsite wash.



Photo 7: Looking southeast at the site from Calle Rosario.



Photo 8: Looking south at the site from Walgreens across River Road.





♦ Photo ID & location photo was taken

Jurisdictional Boundary

FILE NAME: BRT-07_photokeymap.mxd SOURCE: Pima County DOT GIS, 2011

L. Paleontological and Cultural Sites, Structures and Districts

One cultural resource, an archaeological site with structural features, rock alignments and artifacts is identified within the project boundary. The Arizona State Museum recommends the following in a letter dated October 28, 2010, which was written prior to annexation into the City of Tucson: "Because Pima County has jurisdiction in this project area, the county will make its recommendations using its own search results as well as the Arizona State Museum's search results and/or others. Should the County require additional archaeological work in this project area, you will need to contact a qualified archaeological contractor." As the property has been annexed into the City of Tucson, the City Historic Preservation Officer will make recommendations and review archaeological work for the site. See Exhibit II.L: Arizona State Museum Letter, page 41.



Exhibit II.L: Arizona State Museum Letter

Arizona State Museum NOV 2 3 2010

F.O. Box 210026 Tucson, AZ 85721-0026 Tel: (320) 621-6302 Fac: (520) 621-2976

PIMA COUNTY ARCHAEOLOGICAL SITE RECORDS SEARCH RESULTS

E-mail Request Received: 10/28/2010 Search Completed: 11/19/2010

Requester Name and Title: Raquel Goodrich, Project Manager

Company: The Planning Center Address: 110 S. Church, Suite 6320

City, State, Zip Code: Tucson 85701 Phone/Fax/or E-mail: 623-6146

Project Name and/or Number

Project Description BRT-07 / Parcels 10922-005C/D/E, -003J, -2810/20/30/40/50/60, & -0008B Rezoning of 40 ac

Project Area Location: SEC River & Craycroft Roads, Pima County, Arizona.

Legal Description: portions of the S½, NW, & the N½, SW, S25, T13S, R14E, G&SR B&M, Pima Co, AZ.

Search Results: A search of the archaeological site files and records retained at the Arizona State Museum (ASM) indicated that some portions of the project area were inspected for cultural resources in 1979. 1980. 2002, and 2008. Records indicate that another portion of the project area was subjected to a "reconnaissance" survey in 1989, the 1989 survey report indicates that all visually open areas were inspected, but developed and graded areas were not. Thirty-five additional inspections were completed within a mile of the project area between 1979 and 2008. One cultural resource, an archaeological site with structural features, rock alignments, and artifacts, is identified within the currently proposed project area. Thirty-six additional cultural resources, including historic Fort Lowell, are identified as being within a mile of the project area. A color orthophotograph taken of the proposed project area in 2010, enclosed, depicts a ground surface showing both unmodified and modified areas. A residence or residences with outbuildings, paved access roads, landscaping, and pedestrian or recreational traits can be seen in one portion of the project area. Other areas seem to have been graded or bladed. Still others are relatively unmodified. A dry, shallow wash winds across the western portion of the project area.

Sites in Project Area: One, a prehistoric archaeological site. Other cultural resources could exist in the area but are unidentified, because the project area has not been completely surveyed.

Recommendations: Because Pima County has jurisdiction in this project area, the county will make its recommendations using its own search results as well as the ASM's search results and / or others. Should the county require additional archaeological work in this project area, you will need to contact a qualified archaeological contractor whose name is maintained on a list posted on the ASM website at the following address: http://www.statemuseum.arizona.edu/crservices/permits/index.shtml

Pursuant to Arizona Revised Statutes §41-865 et seq., if any human remains or funerary objects are discovered during your project work, all effort will stop within the area of the remains and Dr. Todd Pitezel, assistant curator of archaeology, will be contacted immediately at (520) 621-4795.

If you have any questions about the results of this records search, please contact me at the letterhead address or the phone number or e-mail address as follows.

Sincerely,

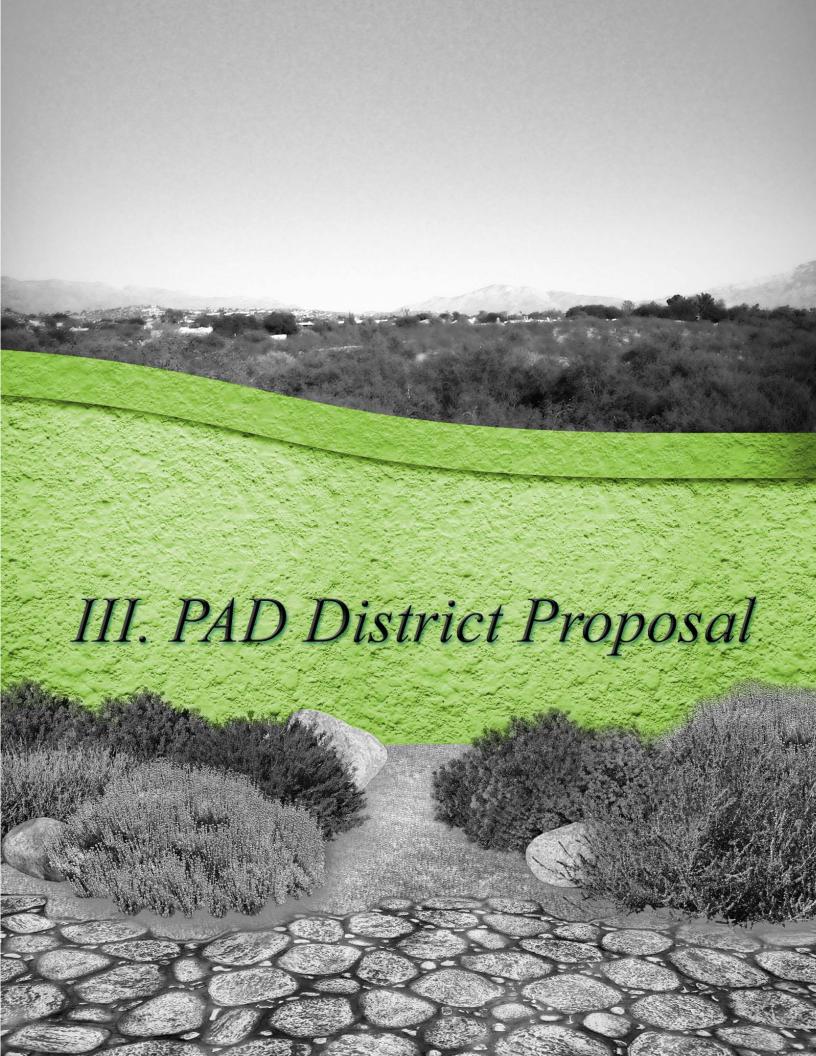
aug v Nancy E. Rearson

Assistant Permits Administrator

(520) 621-2096

nepearso@email.arizona.edu





A. Rio Verde Village PAD Districts

Rio Verde Village is a mixed use community providing a village atmosphere in the foothills of the Catalina Mountains. Uses at Rio Verde Village include shopping, dining, lodging, office, retail/commercial uses, housing and recreation.

The Rio Verde Village PAD consists of 40.32 acres of land divided into two districts based on modified C-2 Commercial and R-2 Residence Zones of Chapter 23, *Land Use Code*, of the Tucson Code in existence on the date that this PAD was adopted (*Land Use Code*). All development shall conform to the regulations and standards in the PAD. Where these regulations and standards vary from the LUC, Development Standards, City of Tucson Lighting Code, the PAD regulations and standards shall control. Where the PAD is silent, the LUC provisions for the C-2 and R-2 zone and other relevant City standards shall control.

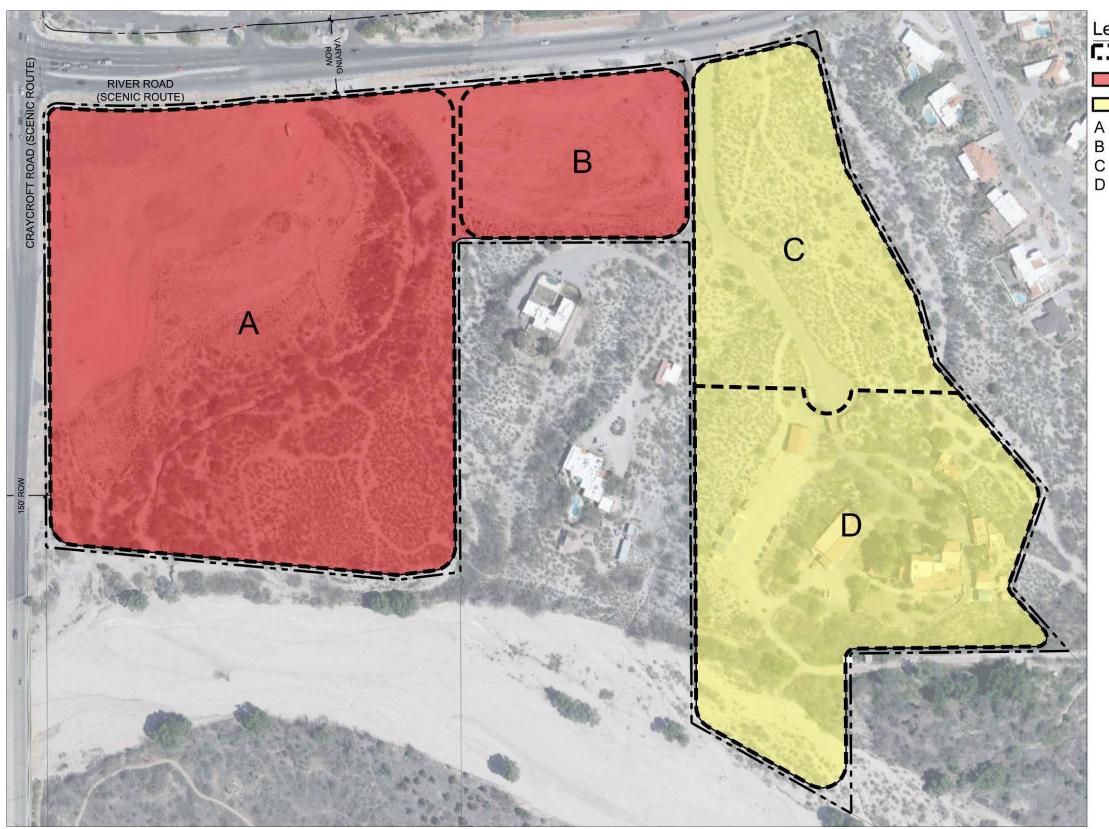
The Rio Verde Market District encompasses approximately twenty-three (23) acres on the western portion of the Rio Verde Village. The Market District is designed to provide a quality shopping and dining experience within the context of office and hospitality development. Uses within this District may include retail, commercial, office and hospitality.

The Rio Verde Manor District covers approximately seventeen (17) acres of the PAD. Uses within this District may include single-family residential, townhomes, and an assisted living community. See Exhibit III.A.1: PAD Districts, page 44 and see Sections III.B and III.C for a complete listing of permitted land uses.

A conceptual site plan (Exhibit III.A.2: Conceptual Site Plan, page 45) is provided to illustrate the proposed configuration of uses within the Rio Verde Village Market District. This plan is provided for conceptual purposes to represent one possible scenario of development under this PAD. Land uses and final layout/configuration is subject to change based upon market conditions and demand.

Five additional conceptual site plans (Concept A-E) are found on Exhibits III.A.3 to Exhibit III.A.7, pages 46 to 50) to illustrate the development scenarios possible for the Manor District. Manor District Conceptual Plans (A-E) are for conceptual purposes only and the final lotting/configuration is also subject to change based upon market conditions and demand.

Exhibit III.A.1: PAD Districts



Legend

Site Boundary

Rio Verde Market District

Rio Verde Manor District

A - Sub-area A - 19.32 AC

B - Sub-area B - 3.91 AC

C - Sub-area C - 6.65 AC

D - Sub-area D - 10.44 AC

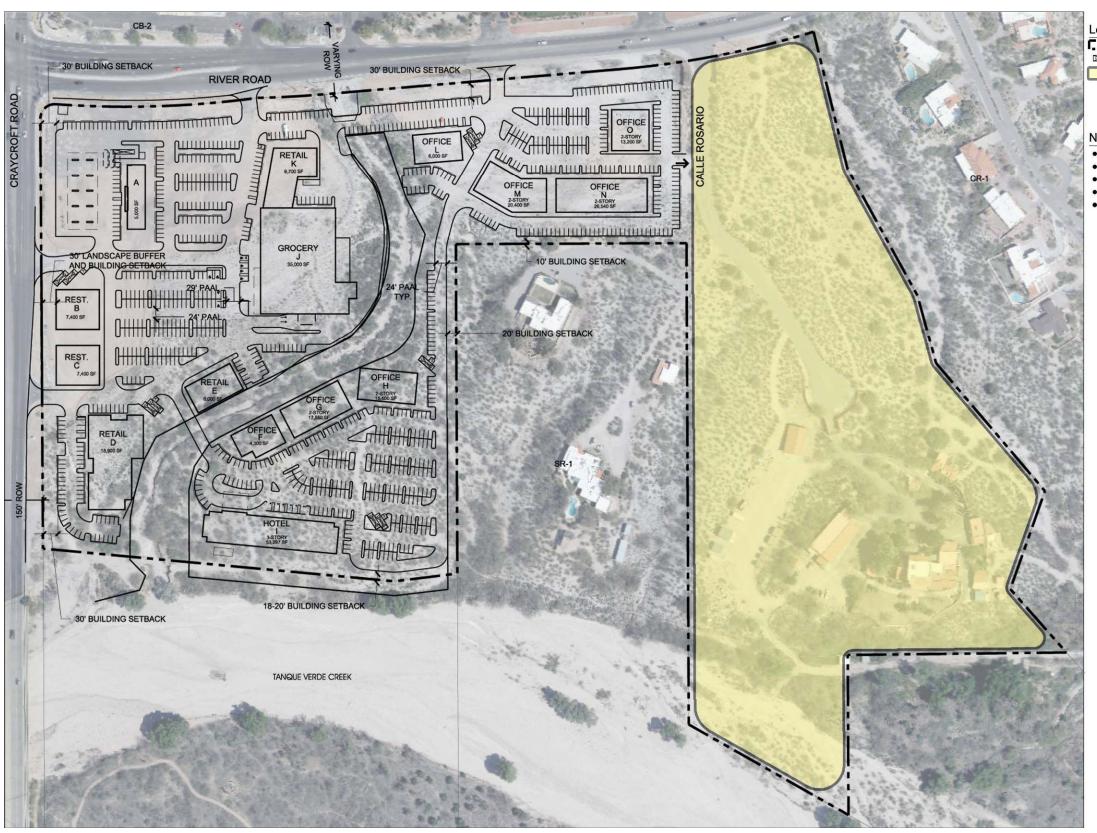


Exhibit III.A.2: Market District Conceptual Site Plan

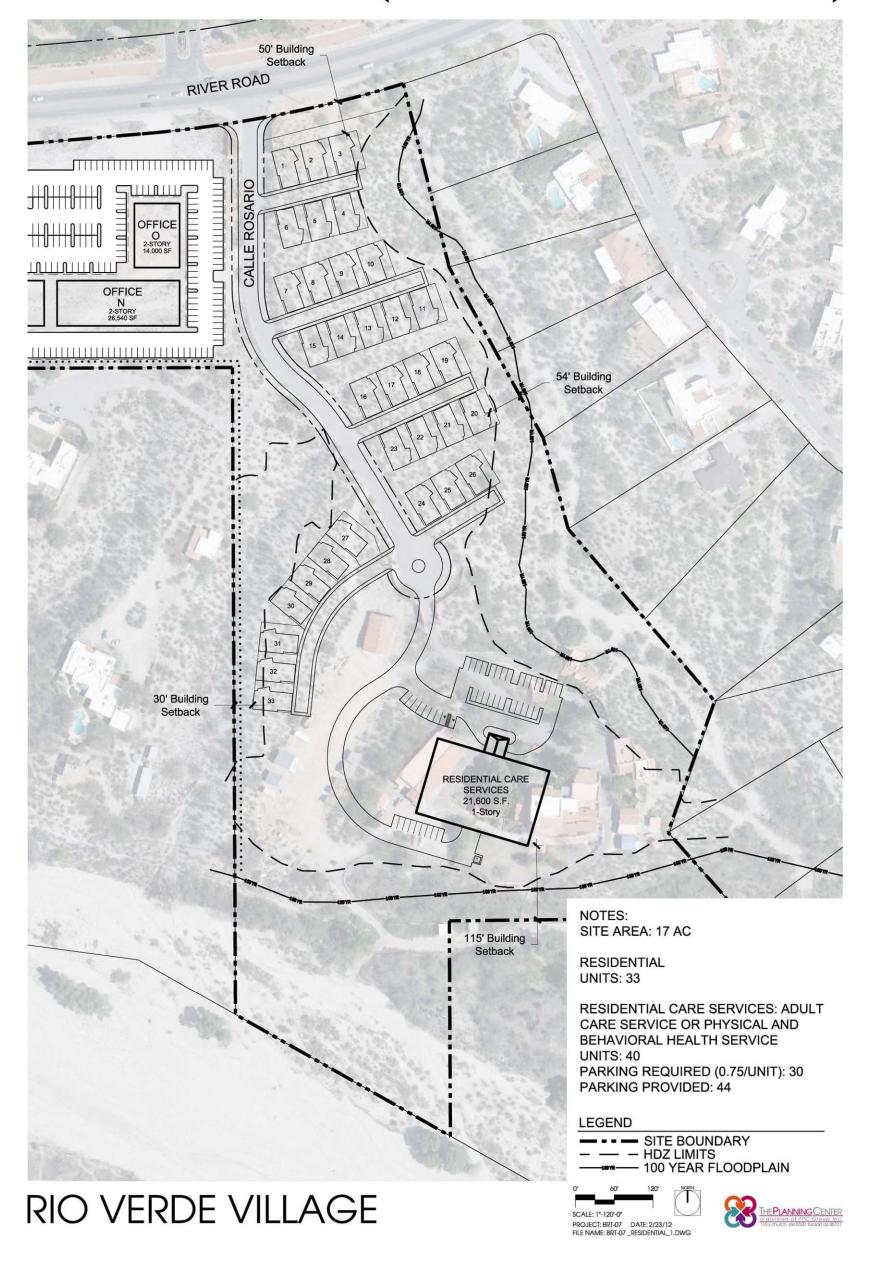
- Legend
 Site Boundary
 Loading Zone
- Rio Verde Manor District

Notes

- Site Area: 40.32 AC
 Jurisdiction: City of Tucson
 Existing Zoning: SR, C-1 and RX-1
 Proposed Zoning: PAD
 Market District: 23.23 AC

Exhibit III.A.3: Manor District Conceptual Site Plan A

CONCEPTUAL SITE PLAN A (GREEN COURT & RESIDENTIAL CARE)



CONCEPTUAL SITE PLAN B (RESIDENTIAL CARE SERVICES)

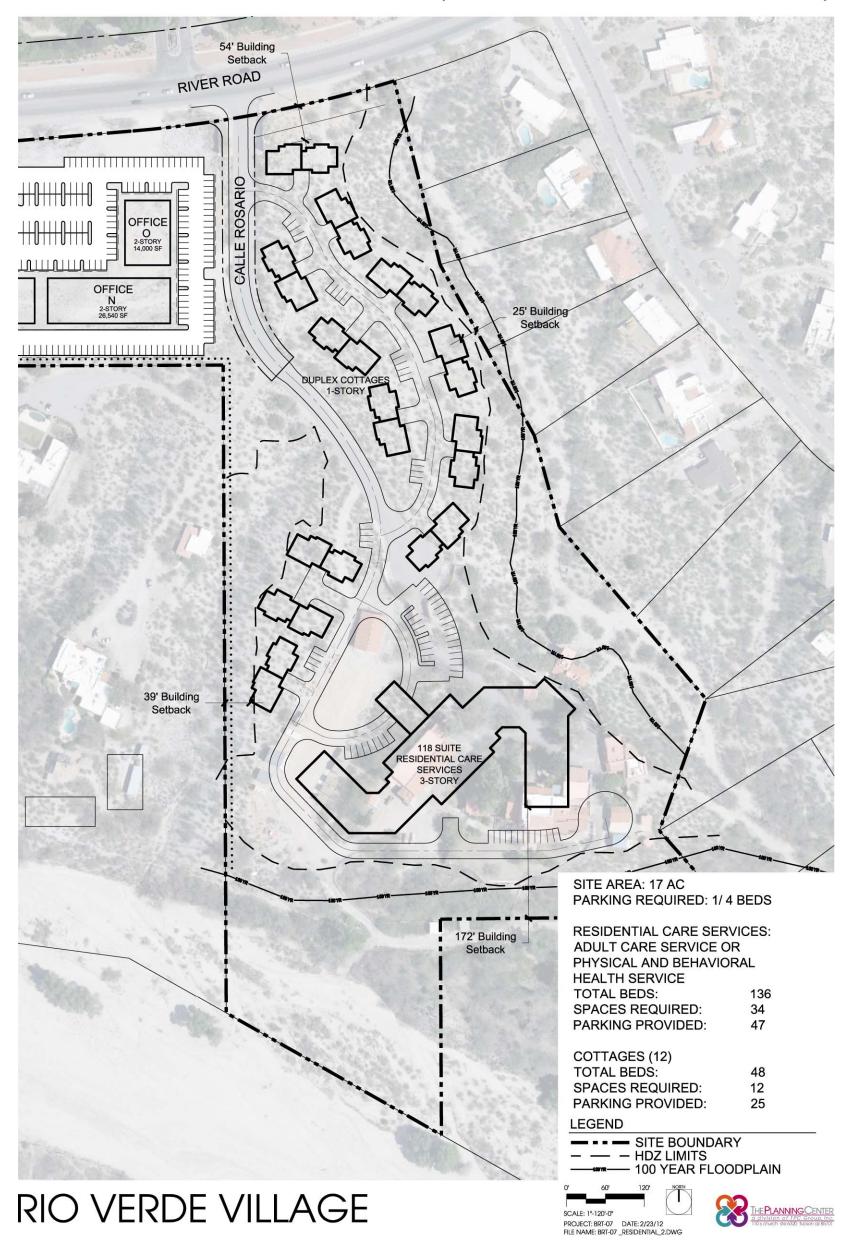


Exhibit III.A.5: Manor District Conceptual Site Plan C

CONCEPTUAL SITE PLAN C (RESIDENTIAL)

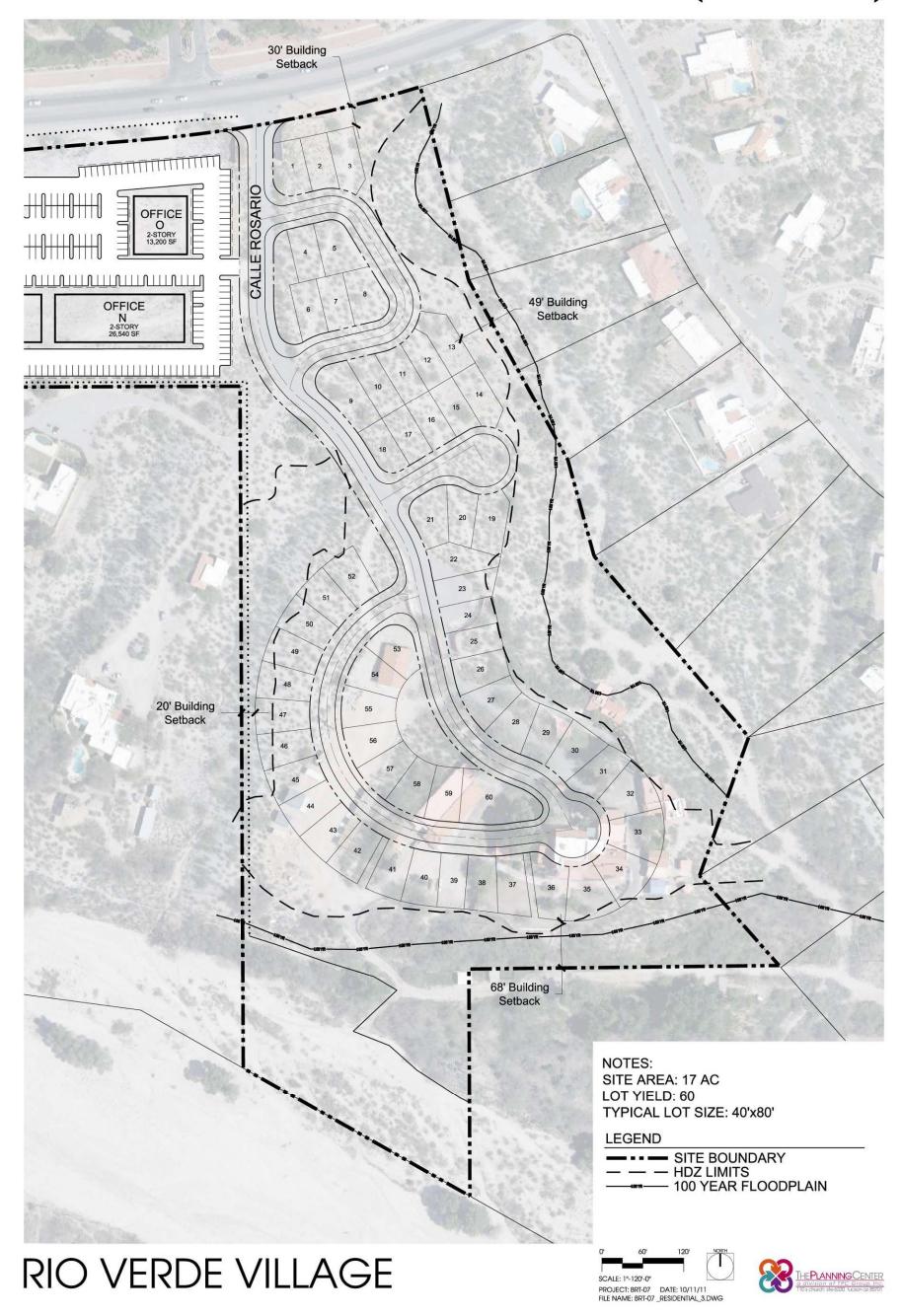


Exhibit III.A.6: Manor District Conceptual Site Plan D

CONCEPTUAL SITE PLAN D (MULTI-FAMILY)

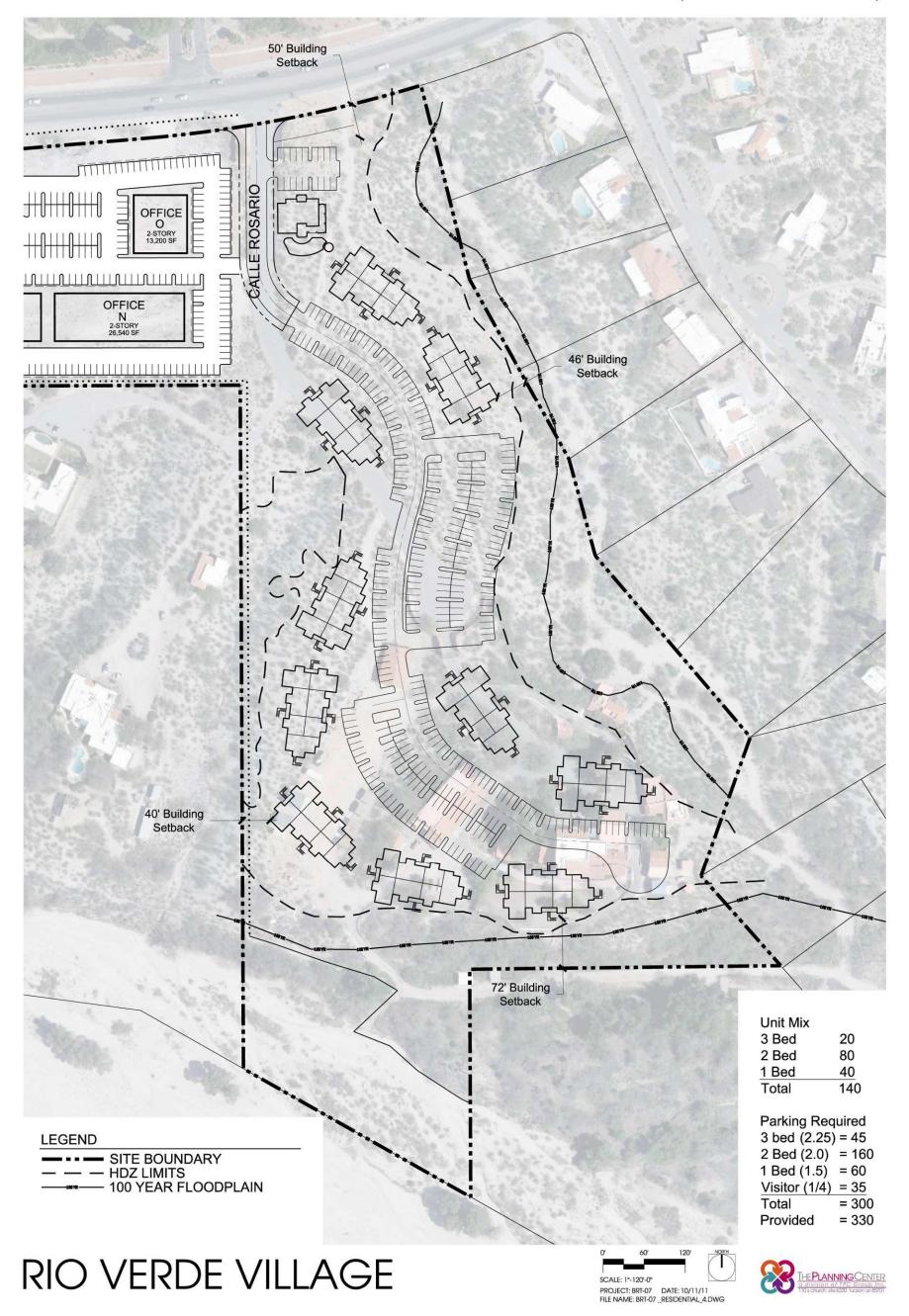
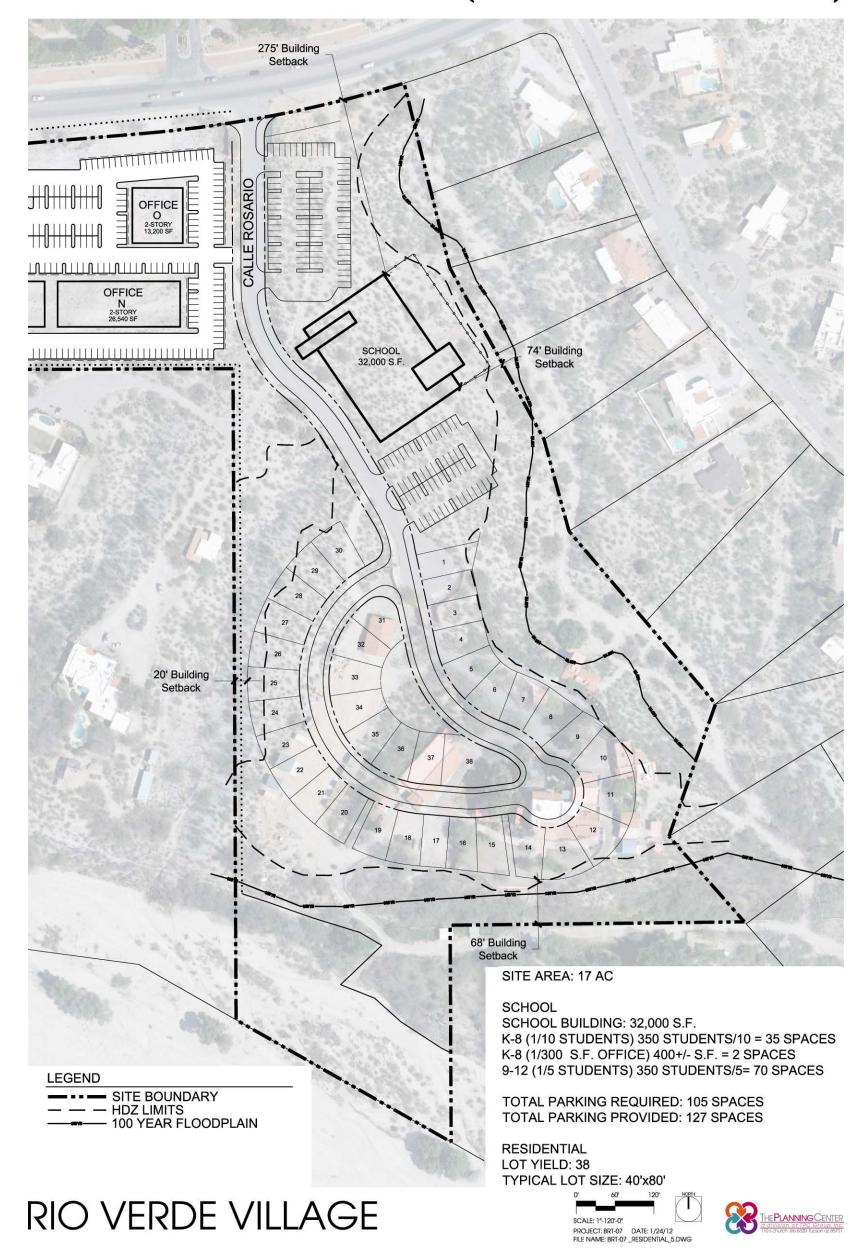


Exhibit III.A.7: Manor District Conceptual Site Plan E

CONCEPTUAL SITE PLAN E (SCHOOL AND RESIDENTIAL)



B. Rio Verde Market

1. Purpose

The Rio Verde Market District (Subareas A & B) seeks to provide goods and services not currently available in the area and to enhance the local economy through job creation and increasing the local tax base. The Rio Verde Market District features shopping, dining, lodging, recreation, office and residential opportunities.

2. Permitted Land Uses

The following uses shall be permitted without a special exception review. These standards will supersede the standards in the *Land Use Code* in existence on the date that this PAD was adopted (including but not limited to Article 3. Development Regulations, Division 2. Development Criteria and Division 5. Performance Criteria) in accordance with Section 2.6.3 of the Land Use Code, except where specific references to such standards are provided in this section of the document. All uses not expressly listed as primary or secondary uses are prohibited unless considered an accessory use. Activity may occur outdoors for all uses allowed below.

a. Commercial Services Use Group

- 1. Administrative and Professional Office
- 2. Alcoholic Beverage Service
- 3. Animal Service, subject to: Sec. 3.5.4.1.C and .D
- 4. Automotive Service and Repair
- 5. Building and Grounds Maintenance
- Communications, subject to: Sec. <u>3.5.4.20</u>.A or Sec. <u>3.5.4.20</u>.B, .C, and .D.1 or .D.2 (Ord. No. 8813, §1, 3/3/97)
- Construction Service
- 8. Day Care
- 9. Entertainment
- 10. Financial Service
- 11. Food Service, subject to: Sec. 3.5.4.6.C
- 12. Medical Service Extended Health Care
- 13. Medical Service Major
- 14. Medical Service Outpatient
- 15. Parking
- 16. Personal Service
- 17. Research and Product Development
- 18. Technical Service
- 19. Trade Service and Repair, Minor
- 20. Traveler's Accommodation, Lodging
- 21. Artisan Residence, subject to: Sec. 3.5.4.28.A, .B, .C, and .E

b. Retail Trade Use Group

1. Food and Beverage Sales

- General Merchandise Sales
- 3. Seasonal Sales and Farmers Markets

c. Civic Use Group

- 1. Civic Assembly
- 2. Cultural Use
- 3. Educational Use: Elementary and Secondary Schools, subject to: Sec. <u>3.5.3.7</u>.A, and .G
- 4. Educational Use: Postsecondary Institution
- 5. Educational Use: Instructional School
- 6. Membership Organization
- 7. Postal Service
- 8. Protective Service
- 9. Religious Use

d. Recreation Use Group

- 1. Neighborhood Recreation
- 2. Recreation
- 3. Open Space

e. Residential Use Group

- 1. Family Dwelling
- 2. Group Dwelling
- Residential Care Services: Adult Care Service or Physical and Behavioral Health Service, subject to: Sec. <u>3.5.7.8</u>.B.2, .C.4, and .D
- 4. Residential Care Services: Rehabilitation Service children's facilities, subject to: Sec. <u>3.5.7.8.A</u>, .B.2, .C.4, and .D
- 5. Residential Care Services: Shelter Care victims of domestic violence, subject to: Sec. <u>3.5.7.8</u>.B.2, .C.4, and .D
- 6. Residential Care Services: Rehabilitation Service or Shelter Care, subject to: Sec. <u>3.5.7.8</u>.B.2, .C.4, and .D

f. Storage Use Group

- 1. Commercial Storage, subject to: Sec. 3.5.10.1.A.1, and .A.2
- 2. Personal Storage, subject to: Sec. 3.5.10.3.C, and .F

g. Utilities Use Group

1. Distribution System, subject to: Sec. 3.5.11.1.I

3. Secondary Land Uses

Secondary Land Uses are those permitted under the C-2 Commercial Zone in *Land Use Code* Section <u>2.5.4.4</u> and subject to the provisions in *Land Use Code* Section <u>3.2.4.1</u>.

4. Accessory Land Uses and Structures

Land uses and structures accessory to the Permitted Land Uses are permitted, subject to the provisions in *Land Use Code* Section <u>3.2.5.1</u>.

In addition, the following uses can be allowed as accessory uses in conjunction with Residential Care Services:

a. Commercial Services Use Group

- 1. Alcoholic Beverage Service, subject to: Sec. 3.5.4.19.C
- 2. Entertainment
- 3. Financial Service, subject to: Sec. 3.5.4.5.C
- 4. Food Service, subject to: Sec. 3.5.4.6.C
- 5. Personal Service

b. Retail Trade Use Group

- 1. Food and Beverage Sales
- 2. General Merchandise Sales

5. Rio Verde Market Development Standards

a. Development Criteria

The Rio Verde Market District shall recognize the development criteria provided in Tables III.B.5.a, III.B.5.b and III.B.5.c below.

These standards will supersede the standards in the *Land Use Code* in existence on the date that this PAD was adopted and *Development Standards* in accordance with Section <u>2.6.3</u> Planned Area Development Zone of the *Land Use Code*, except where specific references to such standards are provided in this section of the document.

Table III.B.5.a: Rio Verde Market District Development Criteria for Nonresidential Land Uses

Tor Nonicolatinal Land 0363			
Minimum Lot Area	None		
Minimum Lot Width	None		
Maximum Lot Coverage	None		
Maximum Floor Area Ratio	2.0		
Separation Between Buildings	Governed by Building Code		
Maximum Building Height	75 feet in sub-area A ² except within 100' of Craycroft Road ROW height is limited to 30 feet 54 feet in sub-area B ²		
Minimum Building Setback from any Public Street and/or MS&R	20 feet ¹		
Minimum Building Setback from any Scenic Route	30 feet		
Minimum Building Setback from Tanque Verde Creek	10 feet		
Minimum Perimeter Wall Requirements	None		
Landscape Buffers and Screening	See PAD Section III.J		

¹The building setback shall be measured from the property line.

²See Exhibit III.A.1: PAD Districts for a description of the sub-areas.

Table III.B.5.b: Rio Verde Market District Development Criteria for Residential Land Uses (Excluding Residential Care Services)

Minimum Lot Area	None			
Minimum Lot Width	None			
Maximum Lot Coverage ¹	80%			
Maximum Building Height	75 feet in sub-area A² except within 100' of Craycroft Road ROW height is limited to 30 feet;			
	54 feet in sub-	54 feet in sub-area B ²		
	Front	5 feet		
Minimum Perimeter Yard Setbacks ^{3,4}	Side	0 feet		
	Side – Street	3 feet		
	Rear/Alley	3 feet		
Maximum Development Density	36 RAC in sub-area A			
	24 RAC in sub-area B			

¹Lot coverage shall be calculated on an individual per lot basis.

²See Exhibit III.A.1: PAD Districts for a description of the sub-areas.

³Allowable setbacks shall be measured from the exterior face of vertical structural walls to the property line. Overhangs, bay windows, chimneys, exterior posts/columns, solar panels, mechanical equipment, light fixtures, pop-outs, other similar architectural features and second story livable space can extend a maximum of 2' into the allowable front and rear setbacks provided the setback is not reduced to less than three feet.

⁴Private drives and alleys that provide exclusive vehicular access to garages are not considered streets for the purposes of calculating minimum perimeter yard setbacks.

Table III.B.5.c: Rio Verde Market District Development Criteria for Residential Care Services

Minimum Lot Area	None		
Maximum Floor Area Ratio ¹	2.0		
Maximum Building Height	75 feet in sub-area A² except within 100' of Craycroft Road ROW height is limited to 30 feet; 54 feet in sub-area B²		
Minimum Perimeter Yard Setbacks ³	Front	20 feet	
	Side	10 feet	
	Side – Street	5 feet	
	Rear/Alley	5 feet	
Maximum Development Density	36 RAC in sub-area A		
	24 RAC in sub-area B		

¹Floor Area does not include any interior motor vehicle parking or off-street loading that is accessory to the principal use.

²See Exhibit III.A.1: PAD Districts for a description of the sub-areas.

³Allowable setbacks shall be measured from the exterior face of vertical structural walls to the property line. Overhangs, bay windows, chimneys, exterior posts/columns, solar panels, mechanical equipment, light fixtures, pop-outs, other similar architectural features and second story livable space can extend a maximum of 2' into the allowable front and rear setbacks provided the setback is not reduced to less than three feet.

C. Rio Verde Manor

1. Purpose

The Rio Verde Manor District (SubAreas C & D) will provide additional residential choices in the area. Civic-type services are also permitted so as to locate services in close proximity to residences. Uses within the Rio Verde Manor District may include single- and multi-family residential, townhomes, an assisted living community, bed and breakfasts', educational facilities and membership organizations.

2. Permitted Land Uses

The following uses shall be permitted without a special exception review. These standards will supersede the standards in the *Land Use Code* in existence on the date that this PAD was adopted (including but not limited to Article 3. Development Regulations, Division 2. Development Criteria and Division 5. Performance Criteria) in accordance with Section 2.6.3 of the Land Use Code, except where specific references to such standards are provided in this section of the document. All existing development at completion of the build-out will have to meet PAD standards. All uses not expressly listed as primary or secondary uses are prohibited unless considered an accessory use. Activity may occur outdoors for all uses allowed below.

a. Residential Use Group

- 1. Family Dwelling
- Residential Care Services: Adult Care Service or Physical and Behavioral Health Service, subject to: Sec. <u>3.5.7.8</u>.B.2, .C.4, and D
- 3. Residential Care Services: Rehabilitation Service children's facilities, subject to: Sec. <u>3.5.7.8.A</u>, .B.2, .C.4, and .D
- 4. Residential Care Services: Shelter Care victims of domestic violence, subject to: Sec. <u>3.5.7.8</u>.B.2, .C.4, and .D

b. Agricultural Use Group

1. Crop Production, subject to: Sec. <u>3.5.2.2</u> (interim use only to accommodate existing residence onsite; no new agricultural uses)

c. Civic Use Group

- 1. Cultural Use
- 2. Educational Use: Elementary and Secondary Schools, subject to: Sec. 3.5.3.7.A, .D, and .G
- 3. Membership Organization
- 4. Postal Service
- 5. Protective Service, subject to: 3.5.13.6
- 6. Religious Use

d. Commercial Services Use Group

1. Travelers' Accommodation, Lodging

e. Recreation Use Group

- 1. Neighborhood Recreation
- 2. Recreation
- 3. Open Space

3. Secondary Uses

Secondary Land Uses are those permitted under the R-2 Residential Zone in *Land Use Code* Section <u>2.3.5.4</u> and subject to the provisions in *Land Use Code* Section <u>3.2.4.1</u> and <u>3.2.4.2</u>.

4. Accessory Land Uses

Land uses accessory to the Permitted Land Uses are permitted, subject to the provisions in *Land Use Code* Section <u>3.2.5.1</u>. In addition, the following uses can be allowed as accessory uses in conjunction with Residential Care Services:

a. Commercial Services Use Group

- 1. Alcoholic Beverage Service, subject to: Sec. 3.5.4.19.C
- 2. Entertainment
- 3. Financial Service, subject to: Sec. 3.5.4.5.C
- 4. Food Service, subject to: Sec. 3.5.4.6.C
- 5. Personal Service

b. Retail Trade Use Group

- 1. Food and Beverage Sales
- 2. General Merchandise Sales

5. Rio Verde Manor Development Standards

Development Criteria a.

The Rio Verde Manor District shall recognize the development criteria provided in Tables III.C.6.a, and III.C.6.b below.

The following standards will supersede the standards in the Land Use Code in existence on the date that this PAD was adopted and Development Standards in accordance with Section 2.6.3 of the Land Use Code, except where specific references to such standards are provided in this section of the document.

Table III.C.5.a: Rio Verde Manor District Development Criteria (Excluding Residential Care Services)

Minimum Lot Area	None	,
Minimum Lot Width	None	
Maximum Lot Coverage ¹	80%	
Maximum Building Height	30 feet	
	Front	5 feet
Minimum Porimotor Vord	Side	0 feet
Minimum Perimeter Yard Setbacks ^{3,4}	Side – Street	3 feet
	Rear/Alley	3 feet
Maximum Development Density	3.5 RAC	

¹Lot coverage shall be calculated on an individual per lot basis.

²See Exhibit III.A.1: PAD Districts for a description of the sub-areas.

³Allowable setbacks shall be measured from the exterior face of vertical structural walls to the property line. Overhangs, bay windows, chimneys, exterior posts/columns, solar panels, mechanical equipment, light fixtures, pop-outs, other similar architectural features and second story livable space can extend a maximum of 2' into the allowable front and rear setbacks provided the setback is not reduced to less than three feet.

⁴ Private drives and alleys that provide exclusive vehicular access to garages are not considered streets for the purposes of calculating minimum perimeter yard setbacks.

Table III.C.5.b: Rio Verde Manor District Development Criteria for Residential Care Services

Minimum Lot Area	None	
Maximum Floor Area Ratio ¹	1.5	
Maximum Building Height	30 feet in sub-area C (see Exhibit III.A.1: PAD Districts); 54 feet in sub-area D (see Exhibit III.A.1: PAD Districts)	
Minimum Perimeter Yard Setbacks ²	Front	20 feet
	Side	10 feet
	Side – Street	5 feet
	Rear/Alley	5 feet
Maximum Development Density	150 beds	

¹Floor Area does not include any interior motor vehicle parking or off-street loading that is accessory to the principal use.

²Allowable setbacks shall be measured from the exterior face of vertical structural walls to the property line. Overhangs, bay windows, chimneys, exterior posts/columns, solar panels, mechanical equipment, light fixtures, pop-outs, other similar architectural features and second story livable space can extend a maximum of 2' into the allowable front and rear setbacks provided the setback is not reduced to less than three feet.

D. Scenic Corridor Zone

The following provisions of the Scenic Corridor Zone (SCZ) apply to any portion of all real properties or parcels which are within four hundred (400) feet of the future right-of-way line of any Scenic Route designated on the Major Streets and Routes (MS&R) Plan. These provisions and the provisions outlined in Section III.J.1 of this document supercede the provisions identified in Article II. Zones Division 8. Overlay Zone <u>2.8.2</u> Scenic Corridor Zone of the *Land Use Code* and Section 23A of the *Development Compliance Code*. No additional SCZ review process as referenced in LUC Section 2.8.2.11 Site Design Review will be required for development within this PAD. Public process requirements have been satisfied through the PAD approval process; no further public process is required.

1. Preservation and Reestablishment of Vegetation.

- a. A buffer area thirty (30) feet wide, adjacent to the MS&R right-of-way line, is established for the purposes of this Scenic Corridor Zone.
- b. Improvements to the site for the purposes of site development are allowed within the buffer area and the SCZ. Improvements may include trails, bike paths, decorative walls or fences. Walls or fences will be located within the back 10'-0" of the buffer. Walls or fences may jog or meander within this area.
- c. Landscaping within the buffer area along River Road and Craycroft Road shall be permitted to include native and low water using non-native plants from the City of Tucson's Drought Tolerant Plant List. The existing conditions of these areas are devoid of vegetation and therefore, preserving the existing conditions does not provide the aesthetic benefit envisioned by the SCZ. The ability to landscape with a wider plant pallet than only those plants found on or near the site, as provided for in the SCZ, allows the site to have the ability to develop a unique identity. At least 50 percent of the plants within the 30 foot SCZ will be native. The SCZ area may also be a receiving area for transplanted vegetation from the site.
- d. Vegetation within drainageways may be removed, replaced or supplemented. (Disturbance may require Army Corps of Engineers Section 404 permitting.)
- e. Pedestrian or bicycle paths, including trails or sidewalks, shall be allowed in the SCZ area at the discretion of the applicant. The paths may meander between the right-of-way on either River or Craycroft Roads and the buffer area. The paths may consist of concrete, pervious concrete, permeable pavers, compacted DG, porous asphalt, reclaimed asphalt pavement, asphalt, or other material. No more than 30 percent of the area shall be used for such features.
- f. All landscaping shall comply with Section III.J of this document.

2. Structure Height

Height of buildings within 100' of the Craycroft Road right-of-way is limited to 30 feet. Refer to Sections III.B.5 and III.C.5 of this document for additional building height criteria.

3. Siting

- a. The Rio Verde Village will be graded for the purposes of constructing the site.
- b. Modifications to drainageways are allowed to occur.
- c. The Rio Verde Village will be designed to incorporate view corridors along street frontage of Scenic Routes, with a combined width of at least twenty (20) percent of that frontage, which allows vision from at least one (1) point into and through that portion of the project that lies within the Scenic Corridor Zone, from the Scenic Route. (See Illustration III.D.3)

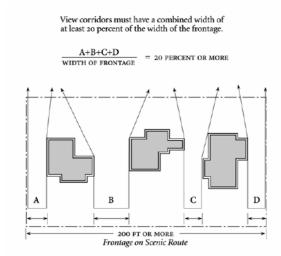


Illustration III.D.3: View Corridors in Scenic Corridor

4. Screening

Screening shall comply with Section III.J of this document.

5. Utilities

All new utilities for development on the site and on public right-of-way along Scenic Routes will be underground.

6. Additional Design Considerations

- a. Building or structure surfaces, which are visible form the Scenic Route, will have colors which are predominant within the surrounding landscape, such as desert and earth tones.
- b. Fencing and freestanding walls facing the Scenic Route will meet the material restrictions in Section III.J of this document.
- c. Additional fill dirt shall be permitted on-site.

E. Circulation Plan

The following provisions apply across the Rio Verde Village PAD except where specified.

1. Traffic Circulation

A Traffic Study prepared by Kimley Horn & Associates, Inc. (Appdendix E) contains recommendations for improvements for the development of Rio Verde Village. Following are the major conclusions of this study:

- a. During the development plan stage, more detailed traffic impact studies will be needed to further refine the land uses and determine whether the intensities are compatible with these assumptions.
- b. Based on current traffic volumes, Craycroft Road has available capacity although it is currently approaching the current capacity of the 4-lane configuration south of River Road. Traffic volumes along River Road are above or near the current capacity of the 2-lane configuration.
- c. Trip generation for the planned uses results in 8,754 daily trips, with 408 trips occurring in the AM peak hour and 679 trips occurring in the PM peak hour.
- d. Based on future (2015) evaluation of the daily traffic volumes, all roadway segments are anticipated to operate above capacity levels, with the exception of Craycroft north of River Road.
- e. The existing River Road / Craycroft Road intersection was evaluated on the basis of future peak hour traffic projections. The intersection will operate at LOS C in the AM peak hour and LOS D in the PM peak hour. No intersection improvements are warranted.
- f. Preliminary analysis indicates that the existing center left turn lane along River Road east of Craycroft should be maintained to provide left-turn access to land uses on both the north and south sides of River Road. However, opportunities to limit outbound left-turns from parcels should be evaluated. In addition, it is recommended that the second eastbound through lane at the signalized intersection be extended along the frontage of the Market District to allow for safer merging opportunities as well as right-turn access into the Market District.
- g. It is recommended that the striped median that currently exists on Craycroft Road south of River Road be re-striped to provide a center left-turn lane. This will allow left-turn access into the site for southbound traffic. Right-turn lane improvements should also be evaluated during the development plan stage.
- h. Along Craycroft Road the northern access driveway into the development shall be restricted to right-in, right-out only. The median along Craycroft should be extended to assist in mitigating the left turning restriction. The timing of this improvement shall be determined by the traffic impact analysis for the first commercial project within the Market District approved under this PAD.

i. It is recommended that more detailed traffic reports, Traffic Impact Studies, based on the *Transportation Access Management Guidelines for the City of Tucson* be prepared as development plans are submitted.

2. Proposed Vehicular Access

Access points to the Rio Verde Village will be provided along the northern and western boundaries of the site. Along River Road, two (2) access points will be provided into the Market District and one (1) access point will be provided into the Manor District. Along Craycroft Road, two (2) access points will be provided into the Market District. Vehicular access to the two residential out-parcels located between the Rio Verde Market and Rio Verde Manor Districts will continue to be via easement.

3. On-Site Vehicular Circulation

Circulation within the Rio Verde Village is designed to provide connectivity to all uses within the PAD while maintaining the flow of traffic, providing adequate locations for loading areas, and maximizing parking spaces in close proximity to buildings. See Exhibit III.E.3: On-Site Vehicular Circulation Plan, page 65. Cross access between the Manor and Market District is encouraged where such connectivity is appropriate, depending on the ultimate uses of the site.

4. On-site Pedestrian and Non-Motorized Circulation

Pedestrian circulation will be provided on-site to connect the various uses within the site to each other as well as providing a pedestrian connection to the existing river park west of the site. At a minimum, pedestrian trails will be provided as illustrated in Exhibit III.E.4.a: Non-vehicular Circulation, and per the associated cross sections "A" and "B" (Exhibits III.E.4.b and .c).

On-site pedestrian paths may be constructed of concrete, stabilized decomposed granite, pervious concrete, permeable pavers, concrete pavers, reclaimed asphalt pavement, asphalt or other materials which meet the intent of this section.

The provision of on-site path and pedestrian routes will provide an amenity to the development and will be used by people in the residential, office and commercial areas. Pedestrian routes will be established between the Manor and Market districts. The pedestrian routes are planned to provide access to the entrances to the buildings and minimize conflicts with vehicles.

See Exhibit III.E.4.a: Non-vehicular Circulation, page 66.

See Exhibit III.E.4.b: Cross Section "A" 10' Pedestrian Trail Adjacent to Rio Verde Market, page 67.

See Exhibit III.E.4.c: Cross Section "B" 10' Pedestrian Trail Adjacent to Rio Verde Manor, page 68.

Exhibit III.E.3: On-Site Vehicular Circulation Plan

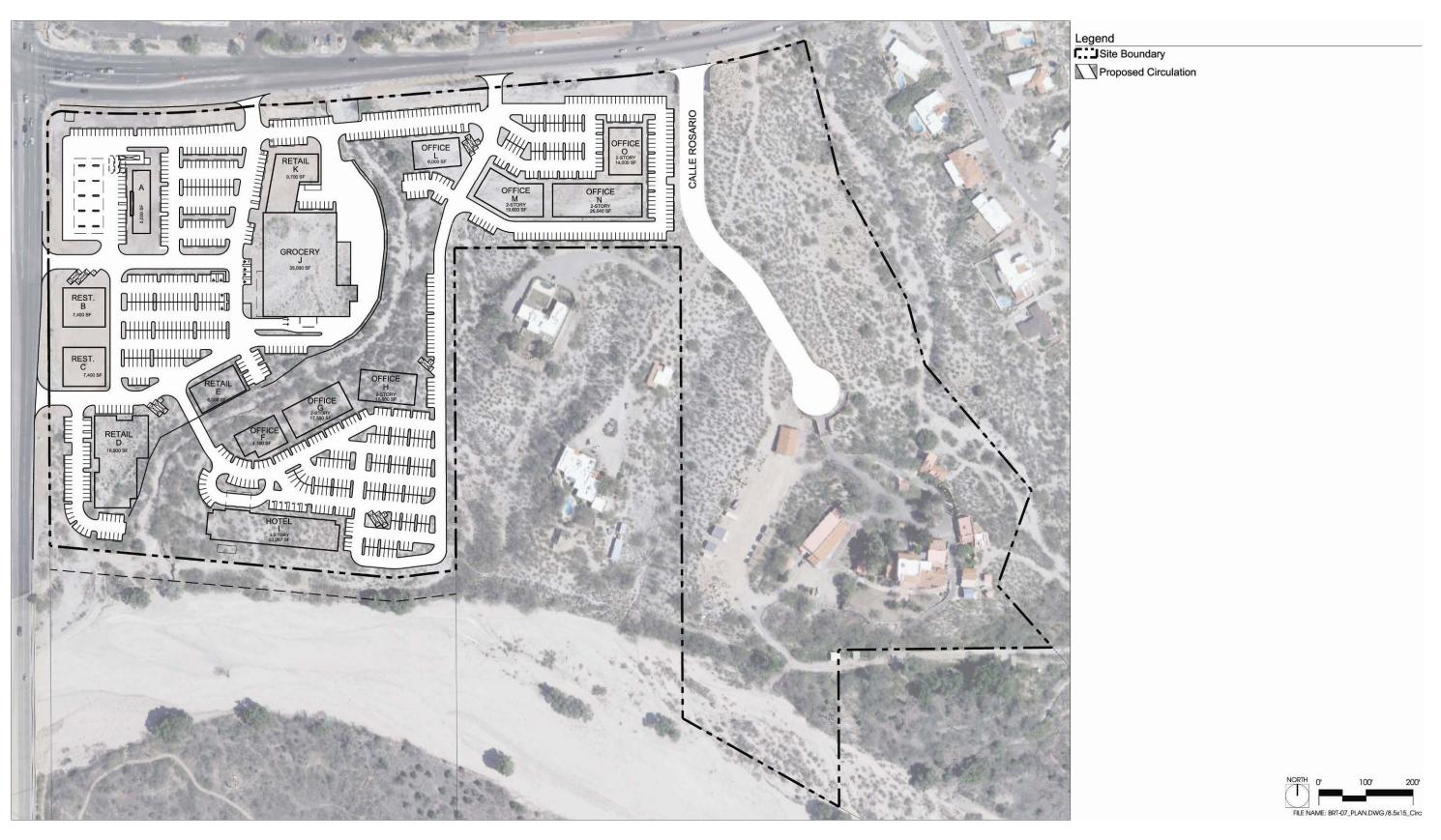


Exhibit III.E.4.a: Non-vehicular Circulation

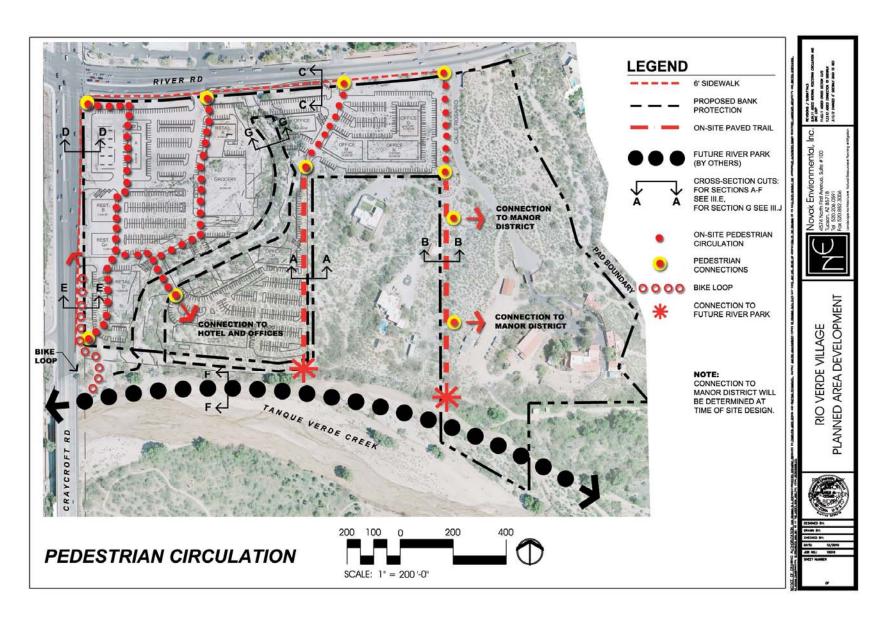
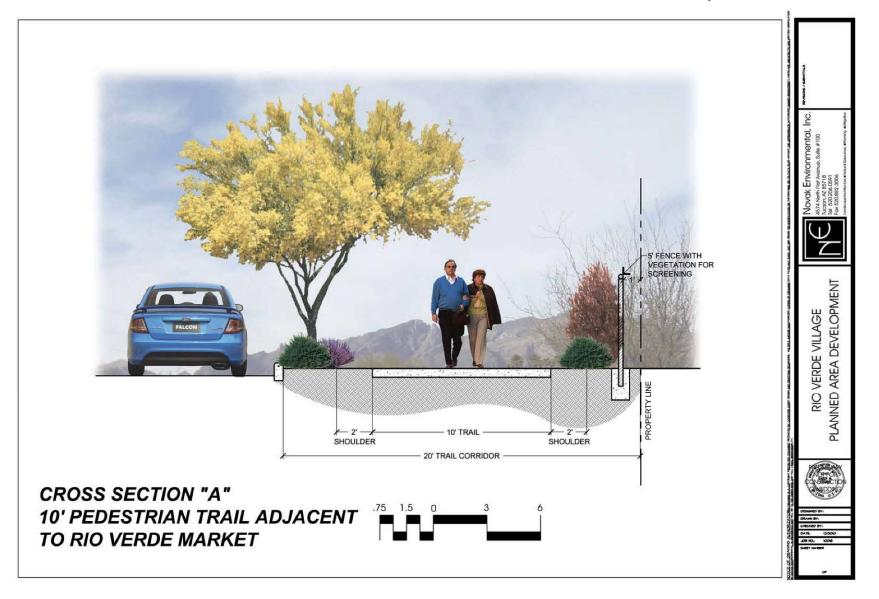
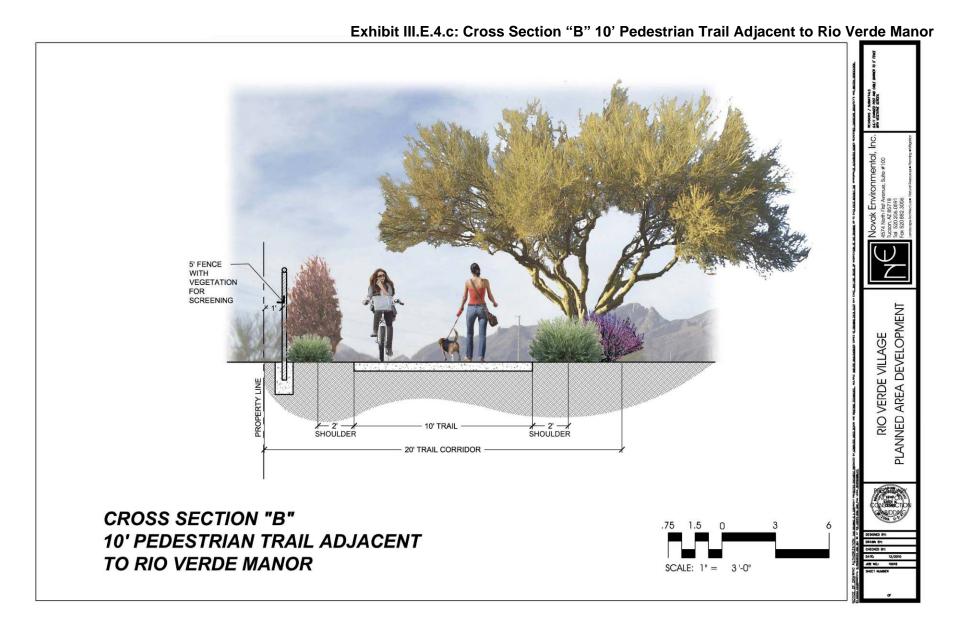


Exhibit III.E.4.b: Cross Section "A" 10' Pedestrian Trail Adjacent to Rio Verde Market





5. Bicycle Circulation & River Park Development

Since the site is located immediately north of the Tanque Verde Creek, and just east of the existing Rillito River Park, planning for connections to the existing and future non-motorized paths, on the river park and along Craycroft Road, is part of this PAD document.

A bike loop connection between the existing river park path on the north bank of the Rillito River and the east side of Craycroft Road has been identified as an important regional bike feature by City of Tucson staff. A paved bike path making this connection is included as part of the PAD. If developed, this path shall be constructed to meet AASHTO safe bicycling standards and will be ADA compliant. In order to avoid having to construct landings, the slope of the paved bike path will be less than 5%. As shown on page 72, Exhibit III.E.5.d: Conceptual Bike Loop Plan, the bike path connection will be located parallel to the property line, within the Craycroft Road right-of-way. Due to the existing grade difference between the end of the existing path under the Craycroft Road bridge and the bike lanes on the east side of Craycroft Road, the access point for the bike path connection will be at or near the planned vehicular entrance north of the bridge on Craycroft.

Design and construction of the bike path connection as part of the PAD improvements provide a direct benefit to the public, therefore all design, engineering and associated construction costs expended by the developer are eligible for impact fee credits for the project.

In addition, there are future plans for developing the river park along the north bank of the Tanque Verde Creek from Craycroft Road upstream to Sabino Canyon Road. To construct this reach of the river park, acquisition of several properties not currently owned or under the control of the applicant is required. Therefore, this has been identified as a lower priority than the bike path connection to Craycroft Road.

Anticipating the potential river park extension, certain improvements (the construction of erosion control bank protection) are necessary for both the development of Rio Verde Village and to make construction of the future river park development along the Tanque Verde Creek possible. (See Section K: Post-Development Hydrology for more information.)

While the location of the buried erosion control bank protection is outside of the PAD boundary, it is located in a manner that will provide protection to future river park improvements which would be developed by others, as well as protection for an existing sewer line located between the existing bank of the Tanque Verde and the PAD boundary.

If the developer designs and constructs the erosion control bank protection as part of the PAD improvements, and the erosion control bank protection provides a direct benefit to the public, then the percentage of costs expended by the developer that benefit the trail and the public are eligible for impact fee credits for the project.

To illustrate that the PAD is not precluding future River Park development, a typical cross section and plan view are provided. These illustrations show the required River Park features, most importantly, a 12-foot paved trail with 2-foot shoulders and an un-paved 8-foot trail can be located in the existing available area between the PAD boundary and the existing natural bank of the Tanque Verde Creek.

The developer does not desire to be an obstacle to the extension of the bike trail along the north side of the Tanque Verde Creek from Craycroft Road to Sabino Canyon Roads. To that end, Developer will dedicate the amount of property required for the extension of the bike trail in the area south of the Market District at such time as all of the following conditions are met:

- Erosion hazard protection is constructed adjacent to the bike trail extension area discussed above;
- The County has funding available to construct the extension of the bike path from Craycroft to Sabino Canyon Roads along the north bank; and
- The County has secured public access, either through easements or dedications from all other property owners along the north bank of the Tanque Verde Creek, for the extension of the bike trail from Craycroft to Sabino Canyon Roads.

The trail dedication in the Manor District will occur on the earlier of either the approved plat for the Manor District or once all of the conditions above have been met.

See Exhibit III.E.5.d: Conceptual Bike Loop Plan, page 71.

See Exhibit III.E.5.e: Cross Section "C" Sidewalk within River Road Right-of-Way, page 72.

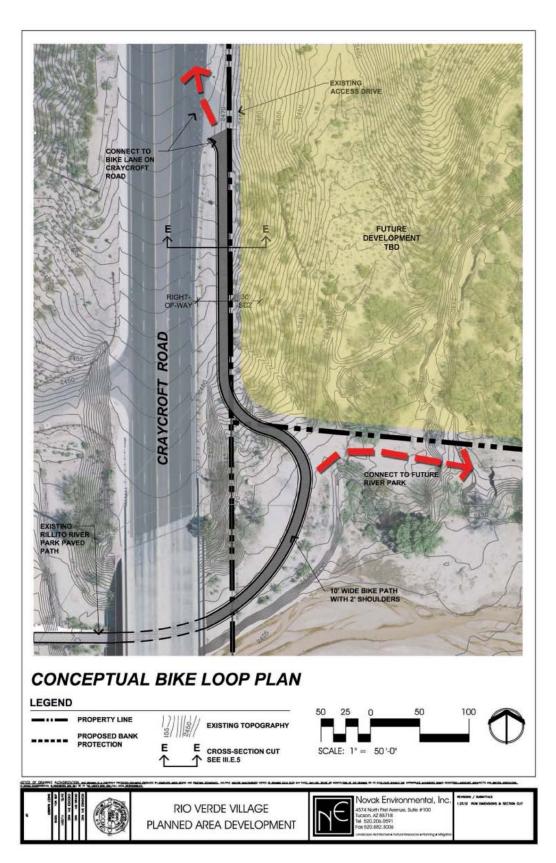
See Exhibit III.E.5.f: Cross Section "D" Sidewalk within Craycroft Road Right-of-Way, page 73.

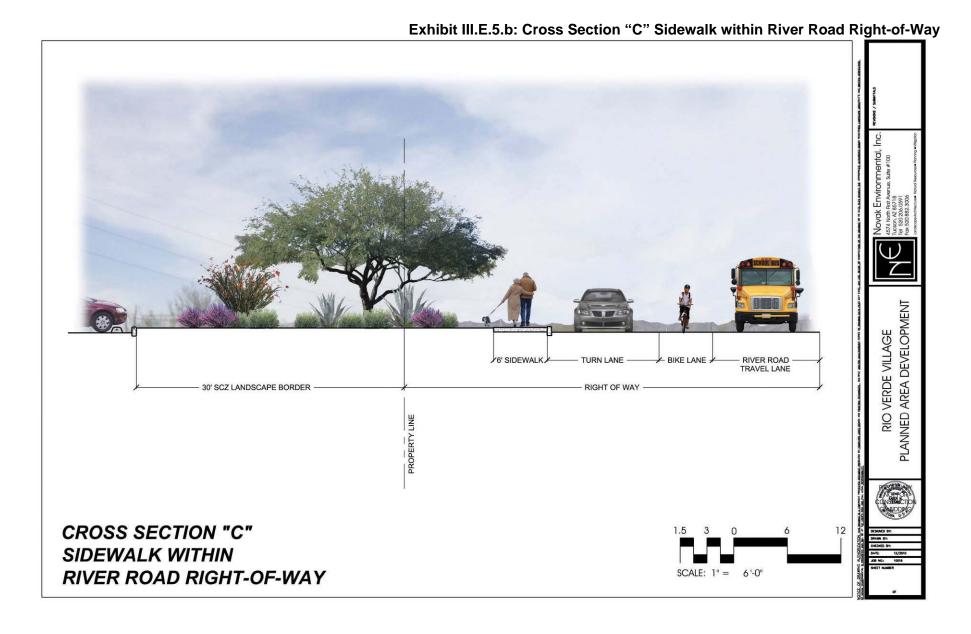
See Exhibit III.E.5.g: Cross Section "E" Conceptual Bike Loop Ramp Section, page 74.

See Exhibit III.E.5.h: Cross Section "F" Typical River Park Trail Section, page 75.

See Exhibit III.E.5i: Typical Plan View of River Park, page 76.

Exhibit III.E.5.a: Conceptual Bike Loop Plan





III. PAD District Proposal 72

Exhibit III.E.5.c: Cross Section "D" Sidewalk within Craycroft Road Right-of-Way

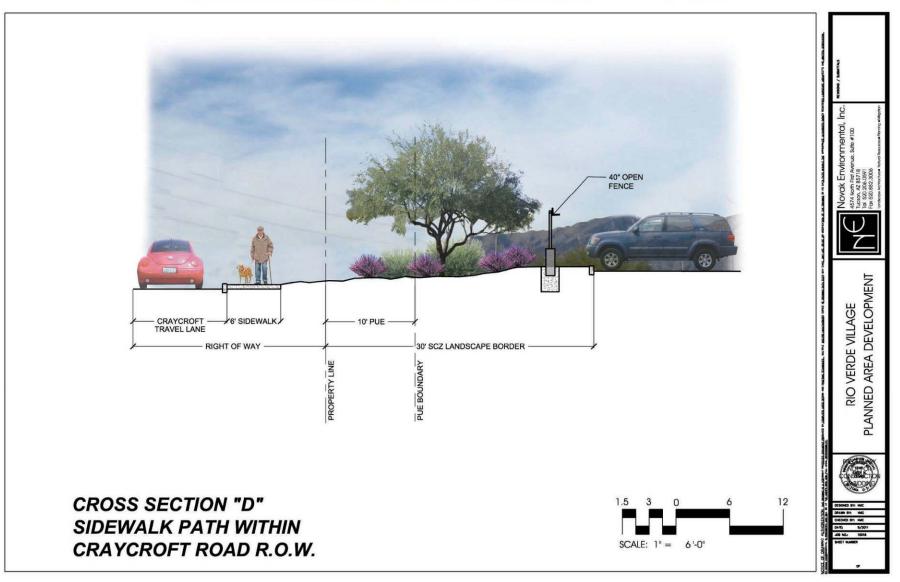


Exhibit III.E.5.d: Cross Section "E" Conceptual Bike Loop Ramp Section

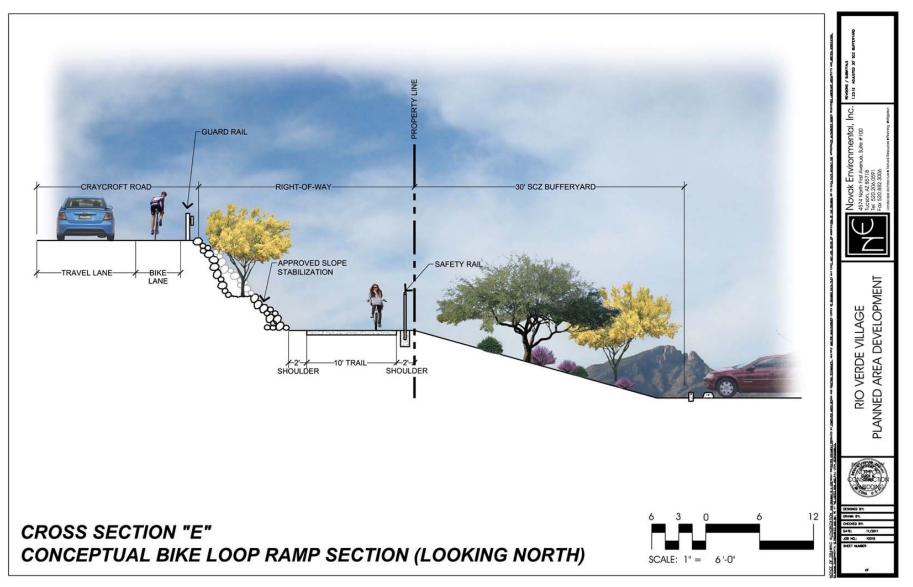


Exhibit III.E.5.e: Cross Section "F" Typical River Park Trail

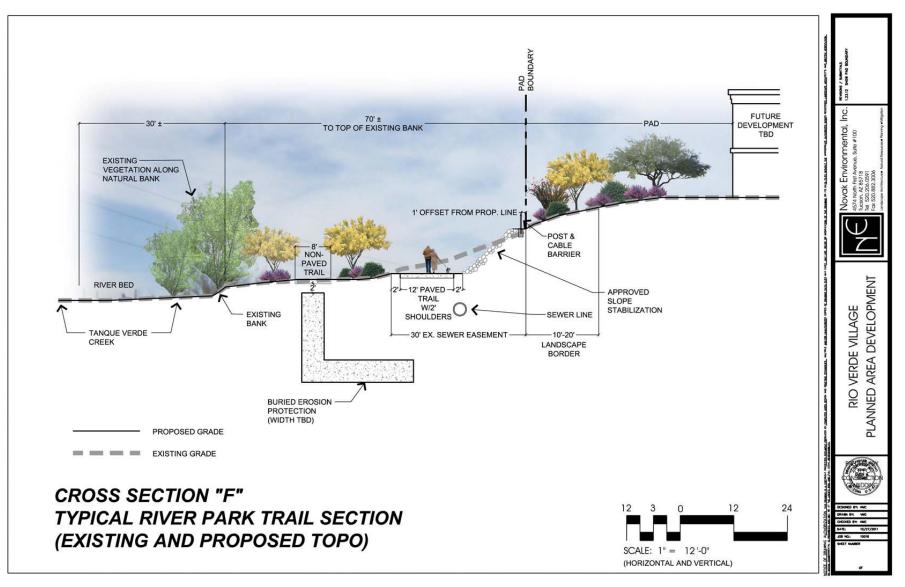
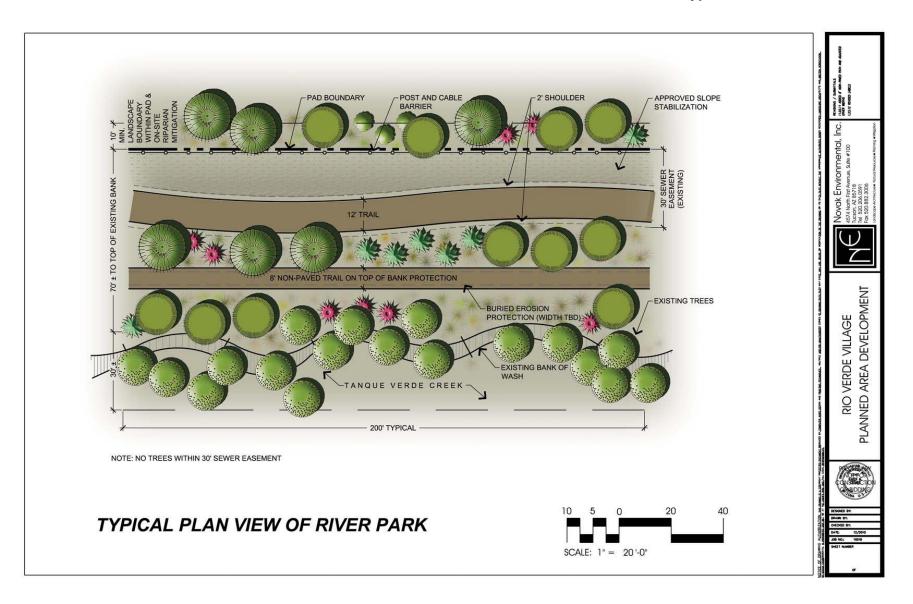


Exhibit III.E.5.f: Typical Plan View of River Park



F. Roadway Standards

This section shall modify Development Standard 3-01.0, Street Development Standard with specific reference to the modified sections below. The following provisions apply across the Rio Verde Village PAD except where specified.

1. Width Requirements (Development Standard 3-01.2.3 – Width Requirements)

- a. No additional pavement width is required for Calle Rosario. The existing pavement is 30'±. Preliminary discussions with City of Tucson Department of Transportation have acknowledged a smaller pavement section is acceptable.
- b. Development Standard 3-01. New private streets/alleys may be twenty feet (20') in width, with two (2) ten-foot (10') travel lanes.

2. Parking Lanes (Development Standard 3-01.2.4.D – Parking Lanes)

a. On-street parking for existing/proposed streets/alleys is only required on the side of a street with direct lot frontage/access.

3. Sidewalk Area (Development Standard 3-01.2.7.A – Sidewalk Area)

- a. Sidewalks are not required along either/both sides of Calle Rosario.
- b. For proposed streets/alleys, construction of sidewalks are only required on the side of street with direct lot frontage/access.

4. Curbing (Development Standard 3-01.3.2.A – Curbing)

- a. Curbing is not required along either/both sides of Calle Rosario.
- b. For proposed streets/alleys, construction of a concrete header is allowed in lieu of curbing.

5. Alleys (Development Standard 3-01.6.6 – Alleys)

a. Alleys may be utilized as a primary access to lots.

G. Parking Requirements

Motor Vehicle and Bicycle Parking Requirements of Article III. Division 3 of the *Land Use Code*, shall apply across the Rio Verde Village PAD with the following exceptions:

1. Parking Requirements for Non-Residential Uses

a. Calculation of Required Motor Vehicle Parking Spaces

Motor vehicle parking spaces for the residential uses shall be calculated per City of Tucson Land Use Code requirements.

b. Parking Area Access Lanes

Parking Area Access Lanes (PAALs) shall be a minimum of twenty (24) feet in width.

c. Paving Materials

Vehicle use areas shall be constructed utilizing materials and construction techniques in accordance with the recommendations of the geotechnical engineer and concurrence from City of Tucson staff. Pervious surfaces are encouraged to lessen the heat island effect, reduce stormwater runoff by using paving alternatives and decrease the overall amount of pavement throughout the development.

d. Handicapped Parking

Handicapped parking will be provided in accordance with ADA requirements from the 2006 IDC, Chapter 11 and ICC/ANSI 117.1, 2003 Edition. Accessible spaces and "Van Accessible" spaces will connect to the accessible route as required by the 2006 IDC, Chapter 11 and ICC/ANSI 117.1, 2003 Edition. All sidewalks, detectable warnings and curb ramps will comply with accessibility requirements as required.

e. Demonstrated Parking

As individual building permits are acquired, each permitted building must demonstrate that at least 80% of the required parking for that building is provided.

The entire circulation system will meet 100% of the required parking by the issuance of the last Certificate of Occupancy for the last new building to be built on-site.

2. Parking Requirements for Residential Uses

a. Motor Vehicle Parking Spaces per Dwelling Unit

Motor vehicle parking spaces for the residential uses shall be calculated per City of Tucson Land Use Code requirements.

b. Vehicular Maneuvering

Private alleys and streets are permitted to be primary vehicular access to any residential lots and guest parking spaces.

c. Parking Area Access Lanes

Parking Area Access Lanes (PAALs) shall be a minimum of twenty (20) feet in width.

d. Handicapped Parking

Handicapped parking will be provided in accordance with ADA requirements from the 2006 IDC, Chapter 11 and ICC/ANSI 117.1, 2003 Edition. Accessible spaces and "Van Accessible" spaces will connect to the accessible route as required by the 2006 IDC, Chapter 11 and ICC/ANSI 117.1, 2003 Edition. All sidewalks, detectable

warnings and curb ramps will comply with accessibility requirements as required.

e. Paving Materials

Vehicle use areas shall be constructed utilizing materials and construction techniques in accordance with the recommendations of the geotechnical engineer and concurrence from City of Tucson staff. Pervious surfaces are encouraged to lessen the heat island effect, reduce stormwater runoff by using paving alternatives and decrease the overall amount of pavement throughout the development.

H. Off-Street Loading Requirements for Commercial Uses

Off-Street Loading Requirements of Article III. Division 4 of the *Land Use Code* shall apply across the Rio Verde Village PAD with the following exceptions:

1. Designated Loading Areas

The PAD will comply with the Loading Requirements of Division 3 of Article 3 of the LUC with the following exceptions:

- Loading areas may be accommodated within standard off-street parking spaces.
- All loading areas may be provided at off-street parking spaces and at designated on-street locations posted for such use, provided that the loading space is located within 250 feet of the use it serves.
- Two or more principal uses within the same building and users on different sites within the Rio Verde Market District may share designated loading spaces provided that the loading area is located within 250 feet of each use's service entrance.

I. Solid Waste Disposal and Recycling

The City of Tucson's Development Standard Number 6-01.0 Solid Waste Disposal (Refuse) shall apply across the Rio Verde Village PAD with the following exceptions:

1. Solid Waste Disposal and Recycling Provider

Solid waste disposal and collection will be provided by the City of Tucson. Collection will be allowed between 7:00 a.m. and 7:00 p.m. in all areas of the Rio Verde Village.

2. Solid Waste Disposal and Recycling for Commercial Uses

Trash receptacles and recycling areas within the Rio Verde Village may have shared access and be shared between uses providing the volume of refuse is contained at all times.

3. Solid Waste Disposal and Recycling for Residential Uses

- a. Curb-side Disposal: Curb-side solid waste disposal and recycling service will be provided using Automatic Plastic Containers (APC). APC storage will be within the garage or behind side yard screen walls.
- **b.** Alley-Loaded Residential Units: For alley-loaded residential units, APCs will be located along the alley adjacent to each unit.
- c. Centralized Trash and Recycling Enclosures: Although it is not anticipated, if the vehicular maneuvering requirements for APCs cannot be met, then centralized trash and recycling containers within screened enclosures may be provided. Where APCs cannot be accommodated, centralized containers may be located up to 300' from a residence. Centralized trash and recycling enclosures shall be screened on three sides by a solid wall and an opaque closing gate on the access side.

J. Landscape Program

This Landscape Program complies with the Scenic Corridor Zone provisions outlined in Section III.D of this document. The landscape border and screening for the site will comply with Article III. Development Regulations, Division 7. Landscaping and Screening Regulations and Development Standards 2-06.0 and 2-16.0. with the following modifications:

1. Landscape Borders and Screening Requirements

The Rio Verde Village PAD is exempt from the requirements outlined in Table 3.7.2-I of Article III. Division 7. Landscaping and Screening Regulations of the Land Use Code. Landscape screening along the boundaries adjacent to existing off-site residential development located between the Rio Verde Market and Rio Verde Manor sections of the PAD will be accomplished with a five foot fence located at the property line along with vegetation to provide a visual barrier. The fence location is necessary to allow for the proposed pedestrian paths along the north/south running property lines, while providing the existing off-site residences a visual buffer from the path and proposed non-residential development. The fence material may include masonry or tube-steel fencing. See Exhibit III.E.4.b: Cross Section "A" 10' Pedestrian Trail Adjacent to Rio Verde Market, and Exhibit III.E.4.c: Cross Section "B" 10' Pedestrian Trail Adjacent to Rio Verde Manor. Plant quantities shall be in accordance with the City of Tucson Landscape Border and Screening Code. Location of required screening elements shall be in accordance with these cross sections.

In general, there shall be no required screening between the river and the landscape border within the PAD immediately adjacent to the river area. It is beneficial to both the future river park (by others) and the PAD development to have a strong visual connection. The proposed landscape border shall be a minimum of 10 feet wide, but may be wider depending on the final site layout. The landscape border shall be landscaped in a manner that provides enhanced riparian habitat to the river, and may also serve as riparian habitat mitigation for impacts to the on-site wash. Any landscaping that is done adjacent to the future river park will use native vegetation.

Screening will be required in cases where unsightly uses are located adjacent to the future river park area. These uses include loading docks or service areas and dumpsters. In these cases, screening shall be done in compliance with City of Tucson Landscape Border and Screening Code.

Landscaping along the frontages of River Road and Craycroft Road, within the 30 foot SCZ buffer shall contain, at a minimum, the following quantity of plants per 100 linear feet of frontage:

Trees: 4

Shrubs/accents: 15 Ground covers: 15

See Exhibit III.J.1: Proposed Landscaping and Screening, page 85.

2. Water Harvesting

The site is proposed to comply with Development Standard 10-03.0.0 Commercial Rainwater Harvesting by passive water harvesting on site. Water harvesting shall be planned from the earliest design stages and will include directing runoff from paved areas in landscape islands and other areas.

The general direction of water runoff for the site throughout the Market District is shown in Exhibit III.J.2: Proposed Water Harvesting, page 86. Although not currently shown, passive water harvesting techniques will also be utilized in the Manor District where appropriate.

3. Native Plant Preservation

This site proposes to comply with the Development Standard 2-16.0 (the Native Plant Preservation Ordinance (NPPO) using the "full inventory" method. Areas subject to the NPPO shall include only those areas outside the areas identified as Regulated Riparian Habitat (RRH). Vegetation within the RRH shall be permitted to be mitigated off site as described in the following section.

This section shall modify Article III. Development Regulations Division 8. Native Plant Preservation Section 3.8.3.3 Concurrent Applicability of Divisions. Plants regulated under the Development Standard 9-06.0, Floodplain, Wash and Environmental Resource Zone (ERZ) Standards shall be removed from inventory and mitigation calculations of the NPPO.

4. Regulated Riparian Habitat (RRH)

This section shall modify Development Standard 9-06.0, Floodplain, Wash and Environmental Resource Zone (ERZ) Standards to achieve the intent expressed within the PAD. The specific sections include, but are not limited to the following:

- a. 9-06.2.5 Development Restrictions. Impacts as shown in the PAD are allowed.
- b. 9-06.3.0 Review. No Full Public Notice Procedure, as detailed in Chapter 23A-50 and 51, for impacts is required. The PAD process provides for public notice of intent to impact RRH.
- c. 9-06.3.2 Review (No SAC or STAC Review).
- d. 9-06.5.0 Request for DSMR. No public notice procedure for request for DSMR, Development Standard 1-01.4.7 is required. The PAD process provides for public notice of the intent to request Design Standard Modifications.
- e. Public process requirements have been satisfied through the PAD process; no further public process is required.

It is the intention to preserve as much existing vegetation as possible near the confluence of the no name wash and the Tanque Verde Creek, while allowing for the improvements needed for bank stabilization and erosion protection.

These proposed improvements include modification of the existing on-site wash to provide bank stabilization and flood and erosion protection to the development (see Section III.K. Post Development Hydrology). Impacts to the vegetation within the regulated riparian habitat will be necessary in order to construct the proposed drainage improvements. Impacts to the vegetation within the RRH will be provided both on-site and off-site as described in this section.

Impacts to RRH shall not be included in on-site NPPO compliance. Native plants subject to the NPPO, outside of the area identified as RRH, shall be mitigated according to the NPPO.

The project shall be permitted to impact existing RRH along the unnamed tributary wash as needed and be allowed to provide mitigation for impacts to the regulated riparian habitat both on-site and off-site on property owned or under control of the applicant that is located in the same general area of the site and provides enhanced riparian habitat and vegetation to the Tanque Verde Creek area.

a. On-Site Areas

On-site mitigation areas may include areas along the top of the noname wash, the southern boundary adjacent to the future riverpark or other areas that meet the intent of riparian habitat mitigation. Low intensity development measures, such as use of alternate paving materials may also be considered.

b. Off-Site Areas

The off-site mitigation area is within the annexation district boundary located on the south side of the Tanque Verde Creek. The off-site are proposed for off-site mitigation is highly suitable to be used for this purpose. The site contains meso-riparian vegetation, dominated primarily with native mesquites. This area was subject to a wildfire in the 1990's, which damaged or destroyed much of the existing vegetation.

The proposed riparian habitat mitigation will include plant species that are of the same or similar to the habitat type in the receiving location.

By using this site as a receiving location for mitigation for on-site impacts to riparian habitat, the mitigation plantings will have a strong connection to the riparian habitat of the Tanque Verde Creek, be in proximity to the on-site riparian habitat impacts they are intended to mitigate and be located in an area able to support increased density of plants.

Impacts may include, but are not limited to bank stabilization along the unnamed wash and portion of the Tanque Verde Creek immediately south of the proposed PAD, crossing for vehicular and pedestrian or non-motorized circulation, enclosing of portions of the wash, specifically on the northern end of the wash, or site grading as needed to construct the development as shown in the preliminary development plan.

See Exhibit III.J.3: Regulated Riparian Habitat Impacts, page 87.

See Exhibit III.J.4: Riparian Mitigation Area Locations, page 88.

See Exhibit III.J.5: Conceptual Riparian Mitigation Plantings, page 89.

See Exhibit III.J.5: Cross-section "G"- "No Name Wash" Conceptual Riparian Mitigation Planting & Side Slope Treatment, page 89.

See Appendix B: Vegetation Survey Information for Regulation Riparian Habitat

Exhibit III.J.1: Proposed Landscaping and Screening

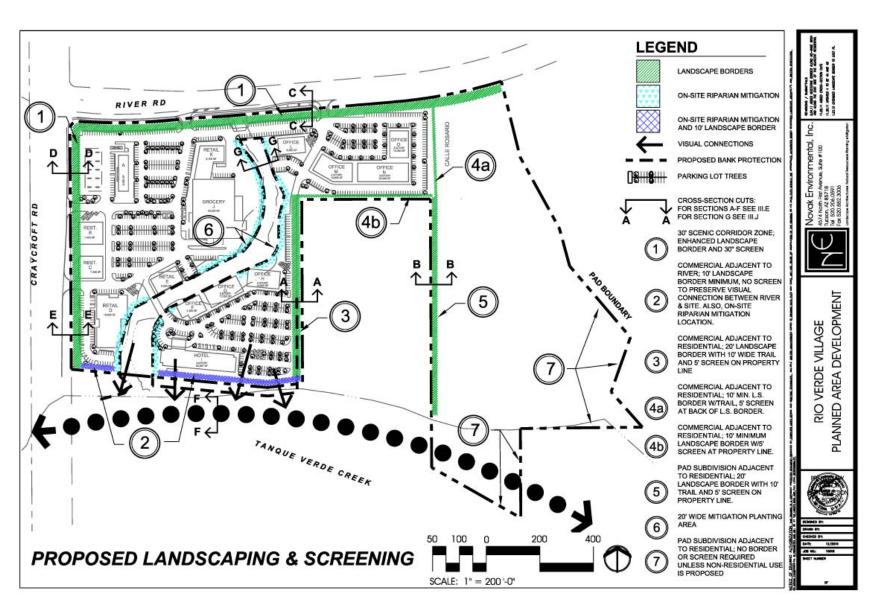
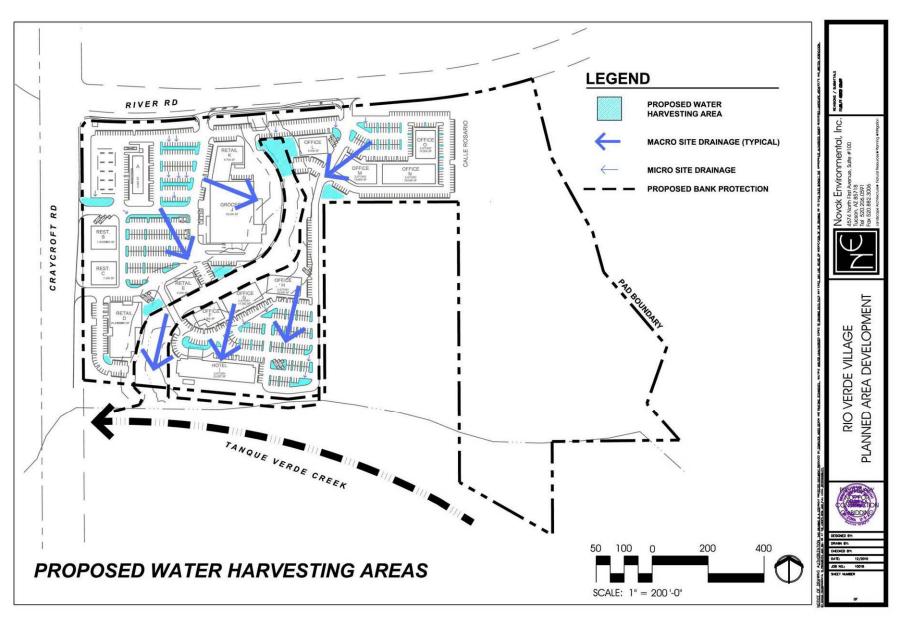


Exhibit III.J.2: Proposed Water Harvesting



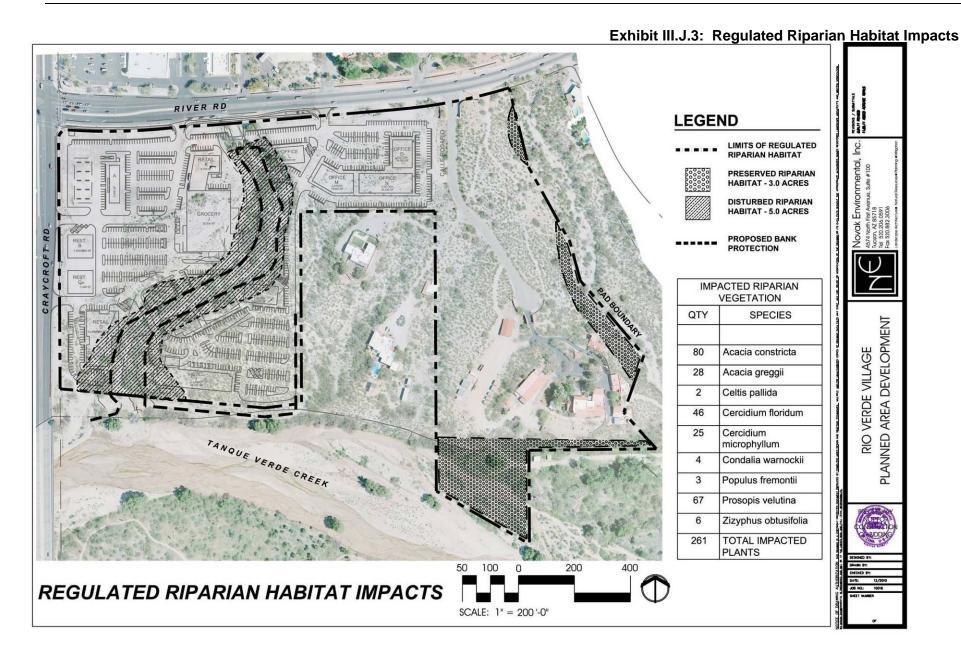


Exhibit III.J.4: Conceptual Mitigation Plantings

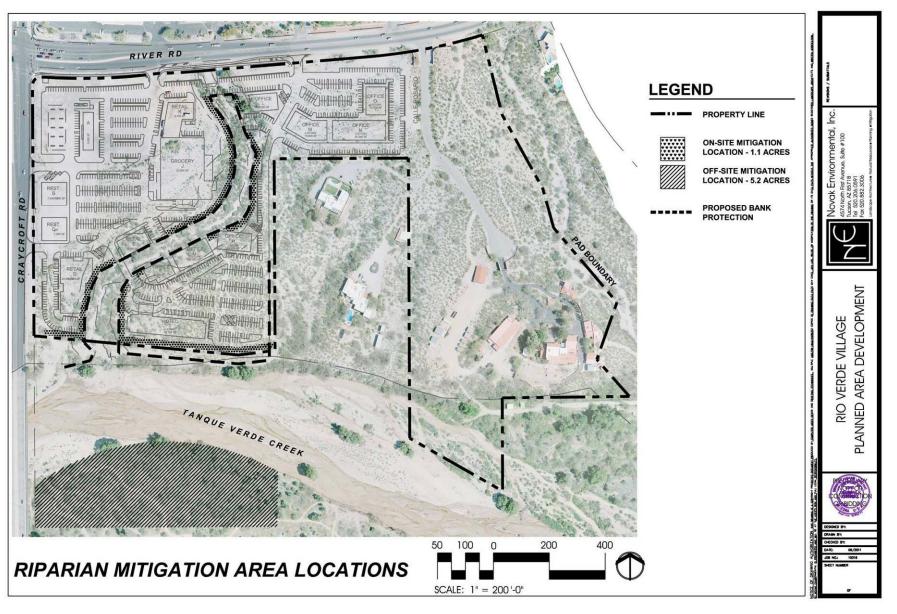
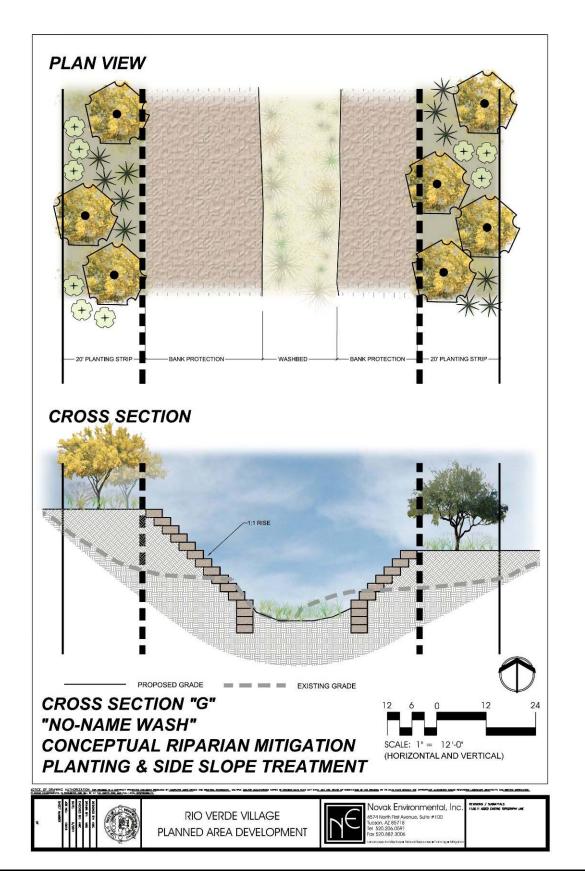


Exhibit III.J.5: Typical Plan and Cross Section "G" Riparian Mitigation Planting



K. Post-Development Hydrology

The following provisions apply across the Rio Verde Village PAD except where specified.

1. Erosion Protection Measures

As indicated under the Hydrology, Water Resources and Drainage section of the Site Analysis, this project lies directly adjacent to the north bank of the Tanque Verde Creek, which has a calculated 100 year discharge of 34,000 cfs, and based on City of Tucson methodology, the erosion hazard setback has been calculated to be 370 feet from the existing top of bank. As the southerly portion of the proposed commercial development lies within the setback area, erosion protection will be constructed. At this time, it is the preferred option that a buried, structurally engineered (concrete) erosion protection will be constructed in a location that lies between the existing earthen bank of the Tanque Verde Creek and the proposed development boundary. This erosion control protection will tie into the existing soil cement bank protection located near the Craycroft Road bridge on the west, as well as tying into the proposed bank protection for the local, onsite wash (as discussed below). A separate erosion protection measure will also be constructed along the eastern edge of the proposed commercial development to tie back to the erosion hazard setback line.

2. Environmental Resource Zone

The Environmental Resource Zone (ERZ), Land Use Code § 2.8.6 shall not apply to the Rio Verde Village property.

3. Watercourse Amenity Safety Hazard (WASH)

There are no designated WASH watercourses on the Rio Verde Village property.

4. Treatment of Washes

As also addressed under the Hydrology, Water Resources and Drainage section of the Site Analysis, the site is also affected by a local wash that bisects the site from River Road south to the Tanque Verde Creek. Based on the calculated flow in the wash, the existing topography, and accepted City engineering standards for erosion setbacks, under existing conditions, the width of the wash through the site would vary from 150 to 250 feet. Under developed conditions for the proposed commercial development, this PAD proposes the construction of bank protection along either side of the existing wash main flow channel to allow for encroachment of development within the existing 100 year floodplain and/or erosion hazard setback area. The proposed commercial development will be constructed such that all proposed buildings and parking areas will lie outside of the developed condition 100 year floodplain. Vertical or near vertical bank protection is proposed for the development. Gabion baskets and/or mattresses are the preferred method of protection for the onsite wash, the use of which will be dependent on the geotechnical conditions along the wash. Other treatments

may be utilized in these areas as well, and all options will be coordinated with the appropriate City staff at the time of the site development design. As shown on Exhibit III.K: Developed Condition Hydrology, page 94, as well as Exhibit III.A.2: Conceptual Site Plan, page 45, as practical, portions of the natural wash invert and vegetation shall remain for conveyance of the flow. Final determination of the extent of the preservation of the wash invert will be coordinated with the appropriate City staff at the time of the site development design. The final alignment & widths of the both the top and invert of the wash will be determined based on the final site layout design. Bottomless arch culverts are proposed for the two on-site vehicular circulation crossings to allow for a continuous natural wash invert from the Tanque Verde Creek up to the existing drainage structure at River Road.

Final construction materials and methodologies for these drainage measures have not been determined at this time, and will be addressed as part of the site development design for review and approval by the appropriate City of Tucson departments.

Under developed conditions, the proposed project site discharges from 6 locations to either existing, natural washes and then into the Tanque Verde Creek, or directly into the Tanque Verde Creek.

- a. A majority of the proposed commercial development discharges directly into the existing on-site wash, which runs generally through the middle of the project site. The 100 year peak discharge into the on-site wash increase from 96 cfs under existing conditions to 159 cfs under the proposed developed condition. However, there are no adverse impacts due to this increase as the wash discharges directly into the Tanque Verde Creek and this local increase does not cause the regional 100 year discharge to increase. Two other small areas from the proposed commercial development discharge from the site, either directly to the Tanque Verde Creek or to an adjacent natural wash. Developed condition discharge from the proposed development to the adjacent wash have been reduced from existing conditions, therefore no adverse impacts are anticipated to the adjacent property.
- b. The proposed residential development, located along both sides of Calle Rosario, discharges to the adjacent natural washes located along the perimeter of each of the proposed developed areas. The proposed portion of the development located along the easterly side of Calle Rosario will discharge into the adjacent wash along the eastern boundary of the project site. Discharge from this area is proposed to increase under developed conditions, but as this local increase does not cause the regional 100 year discharge of the wash to increase, there are no anticipated adverse impacts. Under developed conditions, the discharges for the proposed portion of development west of Calle Rosario will be reduced from the existing condition flows due to a smaller watershed area.

c. The existing "compound" located south of Calle Rosario will have no significant change in watershed or discharge from existing to developed conditions, therefore no adverse impacts are foreseen.

5. Detention/Retention Requirements

Based on the proposed development configuration and drainage strategy to reduce discharges to the adjacent properties affected by the development, as well as the overall project's location directly adjacent to the Tanque Verde Creek, no provision for detention or retention facilities are proposed or required.

Pima County currently designates this project as a balanced basin. Due to it's direct proximity to the Tanque Verde Creek (classified as a "major channel" by Development Standard 10-01.2.3), and the ability through onsite drainage patterns to direct discharges directly or indirectly to the Tanque Verde Creek, the project meets the requirements for a detention waiver per Development Standard 10-01.2.3 - Location within Watershed, Criterion 1.

Because the Tanque Verde Creek will be significantly more effective (with its broad, sandy bottom) for groundwater-recharge than small, local man-made basins, Development Standard 10-01.2.2 - Threshold Retention, which requires threshold retention in order to mitigate the effects of urbanization upon increasing floodwater volumes, as well as for the purpose of enhancing groundwater-recharge potential, does not apply to the Rio Verde Village.

In those areas where the proposed development discharges to an adjacent property not controlled by this ownership, and then into Tanque Verde Creek, detention will not be required so long as the resultant discharges are decreased from existing conditions or do not raise the existing condition water surface elevations for the existing wash in adjacent properties by more than 0.1 feet.

All watershed boundaries and discharges have been identified on Exhibit III.K: Developed Condition Hydrology, page 94.

6. Onsite Grading

Due to the diverse topography of the project site under existing conditions, consistent with foothills terrain of hills and natural washes, based on the proposed development scheme for both the commercial and residential areas, significant grading and changes from the existing topography will be required. Due to the approximately 40' change in elevation on the site from north to south, it is neither feasible nor desirable that the site be graded into a single level. Rather, a terraced grading approach will be utilized to allow individual pads to be constructed in a stepped manner, creating a series of smaller development pads that more closely follow the predevelopment grade and reducing the need for excessive amounts of cut/fill and high retaining walls.

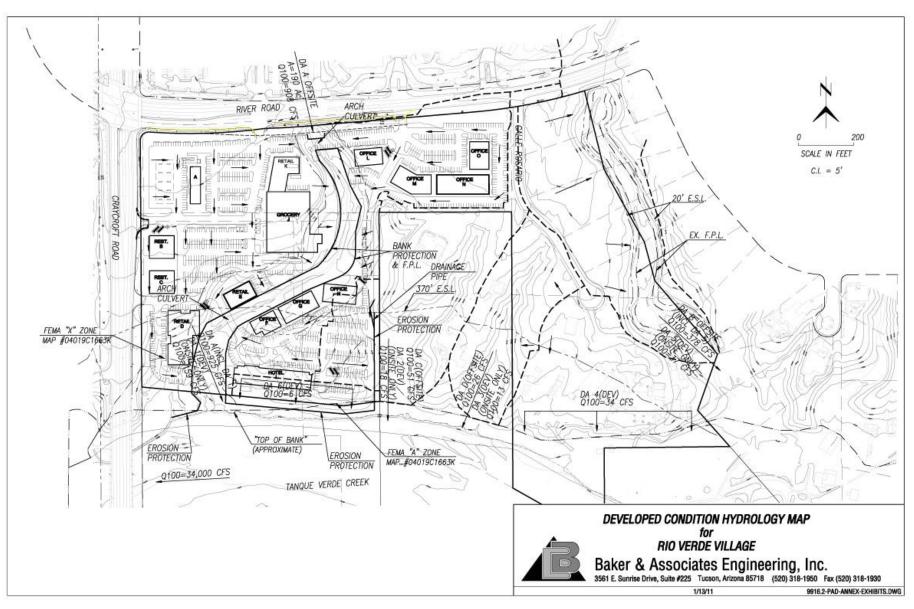
Per Section II.H, the average cross slope is less than 15% for the project, and although 15% slope areas occur within the site, per HDZ criteria this site would

not be categorized as an HDZ Overlay impacted area. In order to construct a developable site in the manner intended by the conceptual site plan, a maximum fill of approximately 10 (ten) feet may be required along the site perimeter, which exceeds the provisions of Development Standard 11-01.8.1 - General Requirements Criteria for Fill, within the first 100' of the property adjacent to the residentially zoning/uses. Zoning Examiner and Mayor and Council approvals shall substitute for PDSD Differential Grading approval of the mitigation for fills in excess of 2-ft for this PAD project site, that do not exceed the maximum grade differential, and shall be based on engineering justification that shall be reviewed during development review stages as outlined in DS Sec.11-01.8. Further, the PAD will allow the use of retaining walls, and allow all cut and fill slopes to be setback 2 feet (minimum & maximum) from the property lines along the project perimeters. Terracing of the retaining walls may be utilized at the discretion of the developer to help prevent excessive retaining wall heights. Finally, a temporary, limited disturbance, stockpile under a stockpile grading permit review may be considered on this project site as necessary prior to Tentative Plat/Development Plan approvals.

7. Wastewater

The owner/developer shall obtain written documentation from the Pima County Regional Wastewater Reclamation Department (PCRWRD) that treatment and conveyance capacity is available for any development within the rezoning area, no more than 90 days before submitting any tentative plat, development plan, sewer improvement plan or request for building permit for review. Should treatment and/or conveyance capacity not be available at that time, the owner/development shall have the option of funding, designing and constructing the necessary improvements to Pima County's public sewerage system at this or her sole expense or cooperatively with other affected parties. All such improvements shall be designed and constructed as directly by the PCRWRD.

Exhibit III.K: Developed Condition Hydrology



L. Design Review Committee

Subsequent to PAD approval and prior to the submittal of any tentative subdivision plat or development plan within the PAD, a standing Design Review Committee (DRC) shall be established to review and approve architectural design within the Market and Manor Districts for compliance with the Rio Verde Village Development Regulations outlined in Section III of this PAD, including all homes, subdivision plats and improvements, development plans, landscaping and signage.

Design criteria for Rio Verde Village will be developed to provide a high quality, coordinated visual aesthetic. Materials used in building and site features will be compatible with the desert environment, compliment the existing development in the area and contain architectural details that provide interest and character to the development. Building architecture will be "four sided" ensuring views from all directions contain attractive facades. A complete set of design guidelines will be developed for the project and approved by the Rio Verde Village Design Review Committee.

The composition of the DRC shall consist of five (5) members as follows:

- One (1) representative from Broadway Realty and Trust
- One (1) architect or design professional (who has no conflict of interest with the development)
- One (1) landscape architect (who has no conflict of interest with the development)
- One (1) representative of the Old Fort Lowell Neighborhood Association
- One (1) at-large member

The DRC shall review all proposed architectural plans. Through a self-certification process, the DRC will provide a letter of approval to the City at the time of plan submittal.

The DRC shall remain in place through 100% of the initial build-out of the development. Beyond this point, the Committee's function will survive through the Homeowners Associations of the residential subdivision or through the property owners association of the commercial center, at their respective discretion.

M. Interpretations and Amendments

1. Interpretation

The regulations and guidelines provided within this PAD, including the Scenic Corridor Zone requirements, supersede all existing regulations within the City of Tucson Land Use Code, Development Standards and other COT regulations (collectively "COT Regulations."). If a conflict arises between the PAD and COT Regulations, the intent of the PAD shall prevail as interpreted by the COT Zoning Administrator.

2. Amendments

Amendments to this PAD may be necessary over time to respond to the changing needs of this organization. Non-substantial changes to the PAD shall

be approved pursuant to LUC Section 2.6.3.11.B.5. Non-substantial changes include the following:

- Modifications to the permitted and secondary uses that do not change the overall intent of the PAD.
- Modifications to tax code parcel boundaries, including changes to interior boundaries or combining parcels, except that changes to the PAD perimeter boundary may not be considered a minor amendment or non-substantial change to the PAD.
- Modifications to the proposed site plan provided the Development Standards set forth in the PAD are maintained.
- Any other items not expressly defined as substantial based on LUC Section 2.6.3.11.B.3.

Substantial changes (as defined in LUC Section 2.6.3.11.B.3), are subject to the amendment process outlined in LUC Section 2.6.3.11.B.4.

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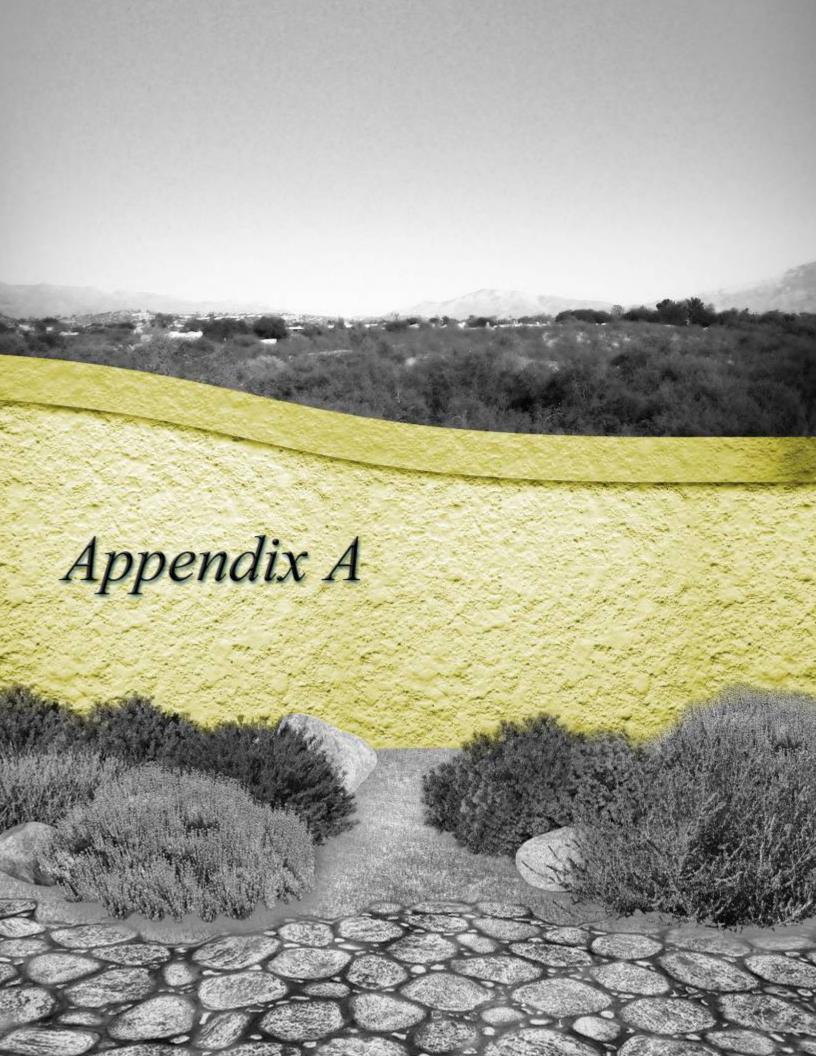
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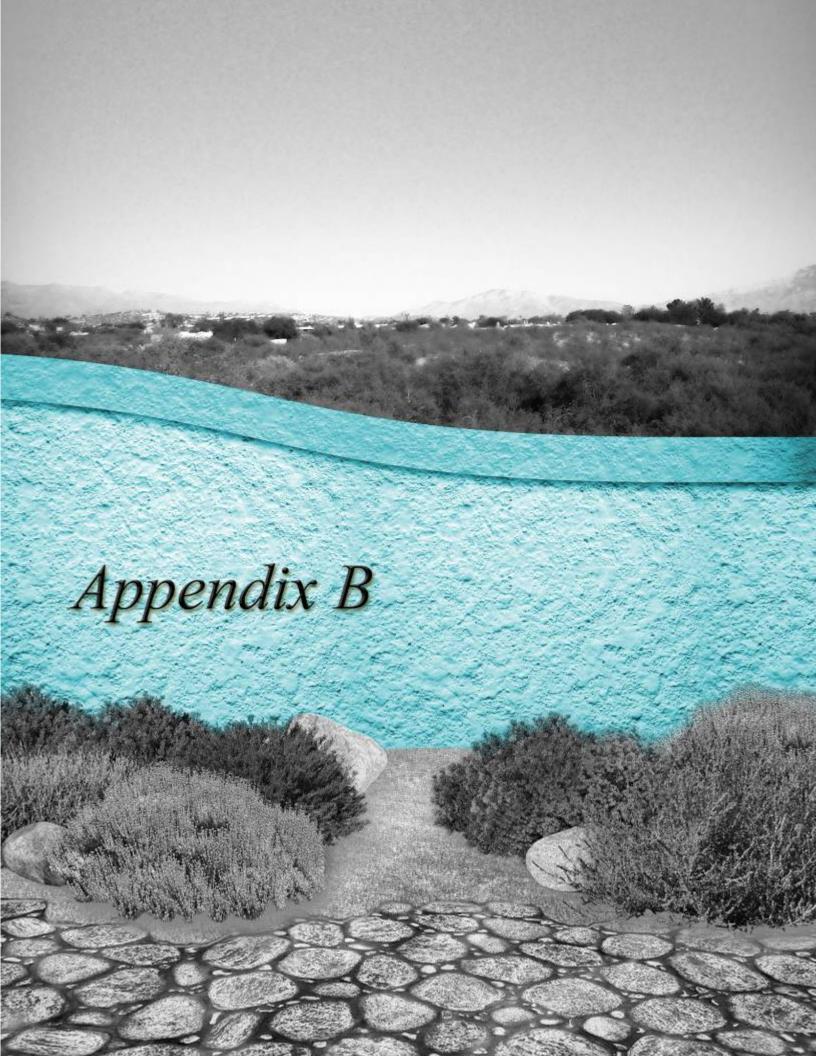
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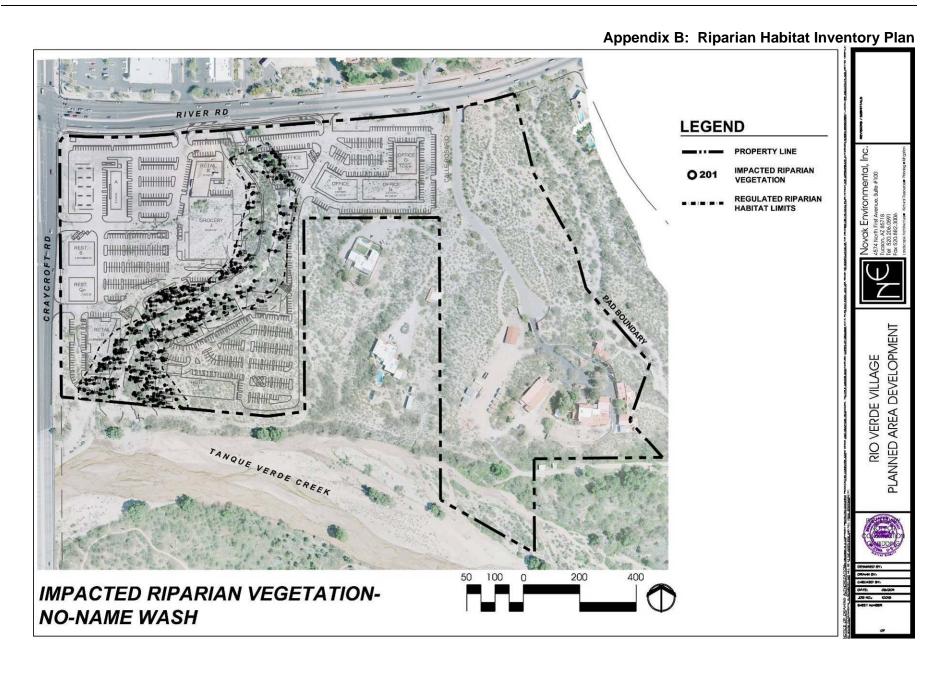


Appendix A: Definitions

<u>Principal Structure</u>: A structure housing the main or principal use of the lot on which the structure is situated.

<u>Seasonal Sales and Farmers Markets:</u> Seasonal sales and farmers markets are occasional or periodic commercial activities held in an open area or enclosed structure where sellers rent space on a short-term basis to display or sell goods to the public.





		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name	1	Feet	Viability	Notes	Rating	Notes
	rosopis velutina	10	9	Н		M	
	rosopis velutina	18	12	L	dead wood, insects, mistletoe	L	large
	rosopis velutina	20	12	M	some dead wood, insects	L	large
	rosopis velutina	20	14	L	dead wood, insects, mistletoe	L	large
	rosopis velutina	44	7	L	dead wood, insects, mistletoe	L	large
	rosopis velutina	24	12	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	16	12	L	dead wood, insects, mistletoe	L	large
	Acacia constricta	2	4	Н		Н	
12 _	Acacia constricta	3	4	M	some dead wood	M	
14 _	Acacia constricta	3	6	M	some dead wood	M	
15 Z	izyphus obtusifolia	3	6	М	some dead wood	М	
16 P	rosopis velutina	14	12	L	dead wood, insects, mistletoe	L	
	rosopis velutina	20	14	L	dead wood, insects, mistletoe	L	large
18 Z	izyphus obtusifolia	3	6	М	some dead wood	M	
19 P	Prosopis velutina	30	16	L	dead wood, insects, mistletoe	L	pack-rat midden
20 P	rosopis velutina	18	8	L	dead wood, insects, mistletoe	L	
21 P	rosopis velutina	14	10	L	dead wood, insects, mistletoe	L	
22	Acacia constricta	3	6	М	some dead wood	L	interference
23 C	ercidium floridum	10	14	Н		Н	
24 C	Cercidium floridum	8	10	М	some dead wood	M	
25 P	rosopis velutina	12	12	L	dead wood, insects, mistletoe	L	
26 P	Prosopis velutina	30	16	М	some dead wood, insects	L	large
	rosopis velutina	30	15	М	some dead wood, insects	L	large
28	Acacia constricta	2	6	Н		Н	
29	Acacia constricta	2	7	Н		Н	
	cacia constricta	8	14	М	some dead wood	L	interference
31 P	Prosopis velutina	24	12	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	18	8	L	dead wood, insects, mistletoe	L	large
	cacia greggii	12	10	М	some dead wood	L	slope
	Prosopis velutina	20	10	L	dead wood, insects, mistletoe	Ī.	large
	Acacia greggii	3	5	H		H	1
	Prosopis velutina	12	6	Ľ	dead wood, insects, mistletoe	i	
	Acacia constricta	3	6	H	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	M	
	cacia constricta	6	4	L	dead wood	<u> </u>	
	Acacia constricta	3	6	H		M	
	cacia constricta	10	14	H		M	interference
	cacia constricta	5	10	M	some dead wood		Interioron

		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
43	Acacia constricta	5	8	L	dead wood	L	
44	_Acacia constricta	3	8	М	some dead wood	L	interference
45	Acacia constricta	6	10	М	some dead wood	L	interference
46	Prosopis velutina	12	9	L	dead wood, insects, mistletoe	L	
47	Acacia constricta	18	8	L	dead wood	L	
48	Acacia constricta	4	7	L	dead wood	L	pack-rat midden
49	Acacia constricta	5	7	М	some dead wood	L	interference
50	Acacia greggii	8	12	М	some dead wood	L	interference
51	Acacia greggii	10	12	М	some dead wood	L	interference
52	Acacia constricta	8	8	М	some dead wood	L	
53	Acacia constricta	10	12	М	some dead wood, mistletoe	L	
54	Cercidium floridum	8	12	М	some dead wood	L	
55	Acacia constricta	6	8	М	some dead wood	L	
56	Acacia constricta	5	9	М	some dead wood	M	
57	Acacia constricta	16	14	М	some dead wood	L	sprawl, large
58	Acacia constricta	10	10	М	some dead wood	L	
59	Acacia constricta	14	14	L	dead wood	L	
60	Prosopis velutina	24	16	М	some dead wood, insects	L	sprawl, large
61	Acacia constricta	12	12	L	dead wood	L	cut bank
62	Prosopis velutina	4	8	L	dead wood, insects, mistletoe	L	interference
63	Prosopis velutina	30	14	L	dead wood, insects, mistletoe	L	pack-rat midden
64	Acacia constricta	6	12	L	dead wood	L	
65	Acacia greggii	20	14	М	some dead wood	L	sprawl, large
66	Acacia constricta	12	10	М	some dead wood	L	
67	Prosopis velutina	18	10	L	dead wood, insects, mistletoe	L	
73	Cercidium floridum	6	10	Н		Н	
74	Acacia greggii	4	6	Н		Н	
	_Acacia greggii	2	6	Н		Н	
76	Prosopis velutina	24	14	L	dead wood, insects, mistletoe	L	pack-rat midden
77	Cercidium floridum	20	16	L	in decline	L	large
78	Acacia greggii	14	11	Н		L	interference
	Prosopis velutina	36	14	L	dead wood, insects, mistletoe	L	sprawling
80	Acacia greggii	16	14	Н		L	sprawl, large
	Prosopis velutina	14	12	Н		Н	
82	Prosopis velutina	16	14	L	dead wood, insects, mistletoe	L	large
83	Acacia constricta	10	9	М	some dead wood	Ĺ	interference
84	Acacia constricta	4	7	L	dead wood	L	
85	Acacia greggii	10	8	М	some dead wood	L	interference
86	Acacia greggii	16	16	М	some dead wood	L	sprawl

					Plant Inventory		
		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
	Acacia constricta	12	10	L	dead wood	L	
88	Acacia constricta	10	9	L	dead wood	L	
89	Acacia greggii	14	9	L	dead wood	L	sprawling
90	Acacia constricta	5	9	Н		Н	
91	_Acacia constricta	2	6	Н		Н	
92	Prosopis velutina	20	16	М	some dead wood, insects	L	large
93	Acacia greggii	30	14	М	some dead wood	L	large
94	Prosopis velutina	22	14	М	some dead wood, insects	L	sprawl
95	Acacia constricta	10	14	L	dead wood	L	pack-rat midden
96	Acacia constricta	8	9	М	some dead wood	L	intererence, slope
97	Acacia constricta	10	8	L	dead wood	L	
98	Acacia greggii	18	10	М	some dead wood	L	slopes
	Prosopis velutina	24	12	L	dead wood, insects, mistletoe	L	large
	Acacia constricta	16	8	М	some dead wood	L	slopes
101	Cercidium microphyllum	20	14	L	dead wood	L	slopes
102	Prosopis velutina	18	14	М	some dead wood, insects	L	interference
	Cercidium floridum	20	14	М	some dead wood	L	large
104	Cercidium floridum	8	12	Н		L	intererence, slope
105	Cercidium floridum	12	10	Н		M	interference
	Cercidium floridum	8	8	Н		M	
	Cercidium floridum	4	8	Н		L	slope
	Cercidium floridum	10	10	Н		L	slope
109	Cercidium microphyllum	4	6	Н		Н	
	Cercidium microphyllum	5	7	Н		H	
	Cercidium microphyllum	8	7	Н		L	slope
	Acacia constricta	12	12	М	some dead wood	L	interference
117	Acacia constricta	6	9	М	some dead wood	L	interference
	Populus fremontii	16	20	Н		L	large
	Acacia constricta	4	8	L	dead wood	L	
	Populus fremontii	22	24	H		L	large
	Populus fremontii	24	25	H		L	large
	Cercidium floridum	4	8	H		L	cut bank
	Cercidium floridum	4	8	H		L	cut bank
	Cercidium floridum	8	9	H		L	interference
	Cercidium floridum	6	8	H		L	interference
	Cercidium floridum	8	10	H		L	interference
	Cercidium floridum	16	13	H		L	interference
	Cercidium floridum	4	9	H		L	
	Cercidium floridum	4	9	H		Ī	

		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name	i i	Feet	Viability	Notes	Rating	Notes
130	Cercidium floridum	4	9	Н		L	interference
131	Prosopis velutina	36	14	М	some dead wood, insects	L	large
132	Acacia constricta	3	7	М	some dead wood	L	interference
	Acacia constricta	2	8	М	some dead wood	L	
134	Prosopis velutina	20	12	М	some dead wood, insects	L	large
	_Celtis pallida	6	7	L	dead wood	L	
	Acacia greggii	12	10	М	some dead wood	L	interference
142	Cercidium microphyllum	6	8	Н		L	cut bank
	Cercidium microphyllum	8	10	L	dead wood	L	access
	Cercidium floridum	16	14	Н		L	access
148	Cercidium floridum	12	12	Н		L	access
149	Acacia constricta	12	14	М	some dead wood	L	access
150	Cercidium floridum	4	12	Н		L	access
151	Cercidium floridum	4	10	Н		L	access
152	Cercidium floridum	4	10	Н		L	access
153	Cercidium floridum	4	8	Н		L	interference
154	Cercidium floridum	4	9	Н		L	interference
155	Acacia constricta	8	10	L	insects	L	
156	Cercidium floridum	10	10	Н		L	
157	Acacia constricta	14	16	М	some dead wood	L	interference
158	Cercidium floridum	30	18	L	in decline	L	large
159	Cercidium floridum	30	16	L	in decline	L	large
160	Acacia greggii	20	16	L	dead wood, insects, mistletoe	L	
	Acacia constricta	10	12	Н		L	interference
162	Acacia constricta	3	8	М	some dead wood	L	
163	Acacia constricta	2	6	М	some dead wood	L	access
164	Acacia constricta	10	7	М	some dead wood	L	access
165	_Acacia constricta	3	6	Н		Н	
166	_Acacia constricta	3	6	Н		Н	
167	_Acacia constricta	3	7	М	some dead wood	L	pack-rat midden
168	Acacia constricta	10	10	М	some dead wood	L	
169	Acacia greggii	12	10	М	some dead wood	L	
	Cercidium microphyllum	10	8	L	in decline	L	transplanted for prior NPPP
	_Acacia constricta	3	6	М	some dead wood	L	interference
172	Cercidium microphyllum	12	8	L	transplanted for prior NPPP	L	
	Cercidium microphyllum	4	6	М	some dead wood	L	transplanted for prior NPPP
174	Cercidium microphyllum	6	6	М	some dead wood	L	transplanted for prior NPPP
175	Acacia constricta	10	10	М	some dead wood	L	
176	Acacia greggii	10	12	М	some dead wood	L	access

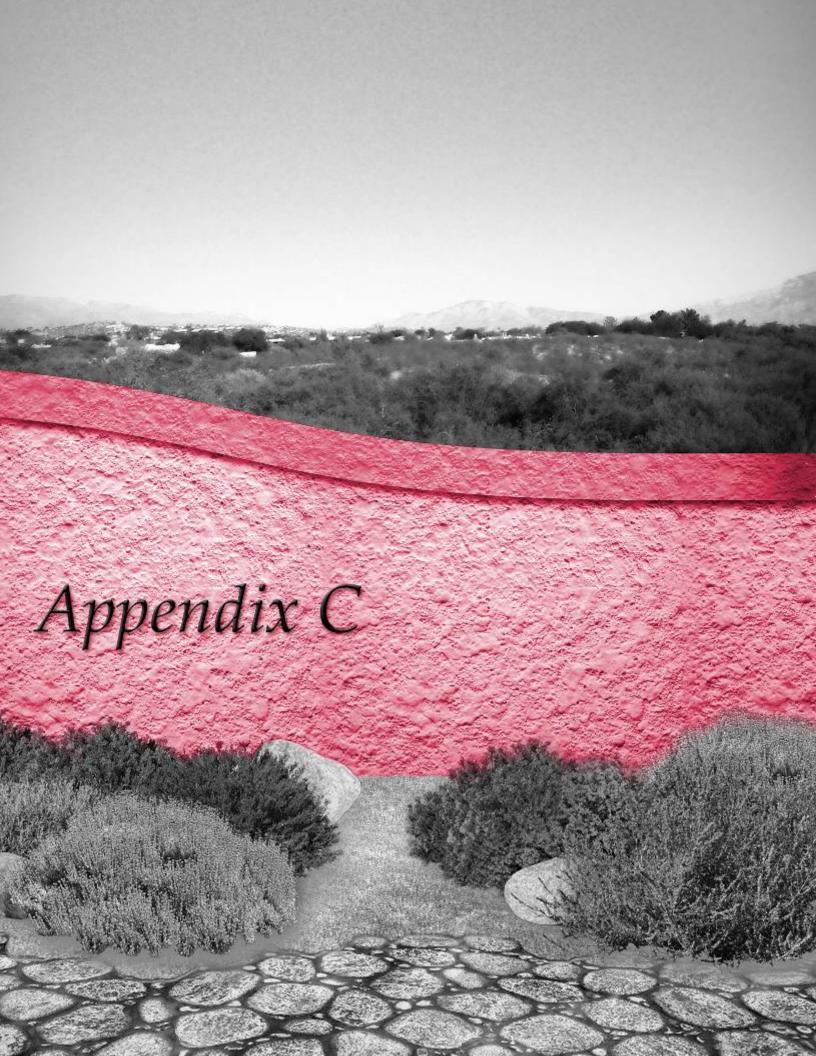
		Caliper	Height	In-situ		Transplant	
.D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
177	Acacia greggii	12	10	М	some dead wood	L	interference
178	Zizyphus obtusifolia	3	7	М	some dead wood	L	interference
179	Condalia warnockii	3	6	М	some dead wood	L	access
180	Acacia greggii	20	16	М	some dead wood, mistletoe	L	large
181	Acacia constricta	6	8	М	some dead wood	L	interference
182	Acacia greggii	10	8	М	some dead wood	L	interference
183	Cercidium floridum	20	20	L	in decline	L	large
192	Prosopis velutina	16	12	L	dead wood, insects, mistletoe	L	sprawl
193	Acacia greggii	10	9	М	some dead wood	L	
194	Cercidium floridum	14	14	М	some dead wood	L	interference
195	Cercidium floridum	36	22	L	in decline	L	large
196	Acacia constricta	8	12	М	some dead wood	L	interference
197	Acacia constricta	12	9	L	dead wood	L	
206	Acacia constricta	10	10	Н		M	
207	Acacia constricta	10	8	М	some dead wood	М	
208	Acacia constricta	12	9	М	some dead wood	L	
209	Acacia constricta	9	7	Н		Н	
245	Zizyphus obtusifolia	10	8	М	some dead wood	L	sprawl
246	Cercidium floridum	12	12	М	some dead wood	L	interference
247	Cercidium floridum	12	12	М	some dead wood	L	interference
248	Prosopis velutina	24	10	L	dead wood, insects, mistletoe	L	large
253	Acacia constricta	10	10	М	some dead wood	L	
256	Cercidium floridum	6	12	М	some dead wood	M	
257	Acacia constricta	2	6	L	dead wood, insects, mistletoe	L	sprawling
258	Acacia constricta	8	12	Н		М	
259	Acacia constricta	6	7	М	some dead wood	L	
260	_Acacia constricta	3	6	L	dead wood, insects, mistletoe	L	sprawling
261	_Acacia constricta	3	7	L	dead wood, insects, mistletoe	L	sprawling
262	Cercidium floridum	4	8	Н		L	interference
263	Acacia constricta	14	10	L	dead wood	L	
264	Cercidium floridum	4	9	М	some dead wood	L	interference
265	_Acacia greggii	3	6	Н	account of the contract of the	L	interference
266	Acacia constricta	4	8	М	some dead wood	L	
267	Acacia constricta	10	7	М	some dead wood	L	
268	Ferocactus wislizenii		1.5	М		L	browning
269	Carnegiea gigantea		3.5	М	damaged	Ĺ	base eaten
270	Prosopis velutina	16	12	L	dead wood, insects, mistletoe	L	
271	Cercidium floridum	12	12	М	some dead wood	L	
272	Acacia constricta	16	12	М	some dead wood	L	large

		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
273	Cercidium floridum	4	10	Н		Н	
274	Acacia constricta	6	7	L	dead wood	L	
275	Prosopis velutina	24	12	L	dead wood, insects, mistletoe	L	large
276	Acacia constricta	3	7	L	dead wood, insects, mistletoe	L	sprawling
277	Acacia constricta	9	14	L	dead wood	L	
278	Acacia constricta	10	9	L	dead wood	L	
279	Cercidium floridum	3	10	Н		L	interference
280	Cercidium floridum	14	10	М	some dead wood	L	
281	Cercidium floridum	12	14	М	some dead wood	L	large
282	Cercidium floridum	14	14	М	some dead wood	L	large
283	Acacia constricta	3	7	М	some dead wood	L	sprawl
284	Acacia constricta	8	10	М	some dead wood	L	
285	Acacia greggii	8	8	Н		L	sprawl
286	Prosopis velutina	28	16	L	dead wood, insects, mistletoe	L	large
287	Cercidium floridum	50	25	L	in decline	L	large, aged
288	Cercidium floridum	4	8	М	some dead wood	L	interference
289	Cercidium floridum	6	8	Н		L	interference
290	Acacia constricta	4	8	L	in decline	L	
291	Acacia constricta	2	5	Н		Н	
292	Cercidium floridum	10	14	Н		Н	
293	Acacia constricta	6	12	Н		L	access
295	Acacia greggii	24	12	Н		L	sprawl, large
296	Acacia constricta	10	12	М	some dead wood	L	
297	Acacia constricta	8	12	L	dead wood	L	
298	Acacia greggii	12	7	М	some dead wood	L	
299	Acacia greggii	8	8	М	some dead wood	L	access
300	Prosopis velutina	24	14	L	dead wood, insects, mistletoe	L	large
301	Acacia constricta	18	16	L	dead wood	L	large
302	Acacia greggii	18	14	Н		L	large
303	Prosopis velutina	30	16	L	dead wood, insects, mistletoe	L	large
304	Condalia warnockii	3	4	L		L	
305	Cercidium microphyllum	14	12	L	transplanted for prior NPPP	L	
306	Acacia constricta	4	7	L	dead wood	L	
307	Acacia constricta	6	7	М	transplanted for prior NPPP	L	
308	Prosopis velutina	20	16	L	dead wood, insects, mistletoe	L	large
309	Acacia constricta	6	5	L	dead wood	L	
	Prosopis velutina	16	14	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	20	16	L	dead wood, insects, mistletoe	L	large
312	Cercidium microphyllum	16	10	L	transplanted for prior NPPP	L	

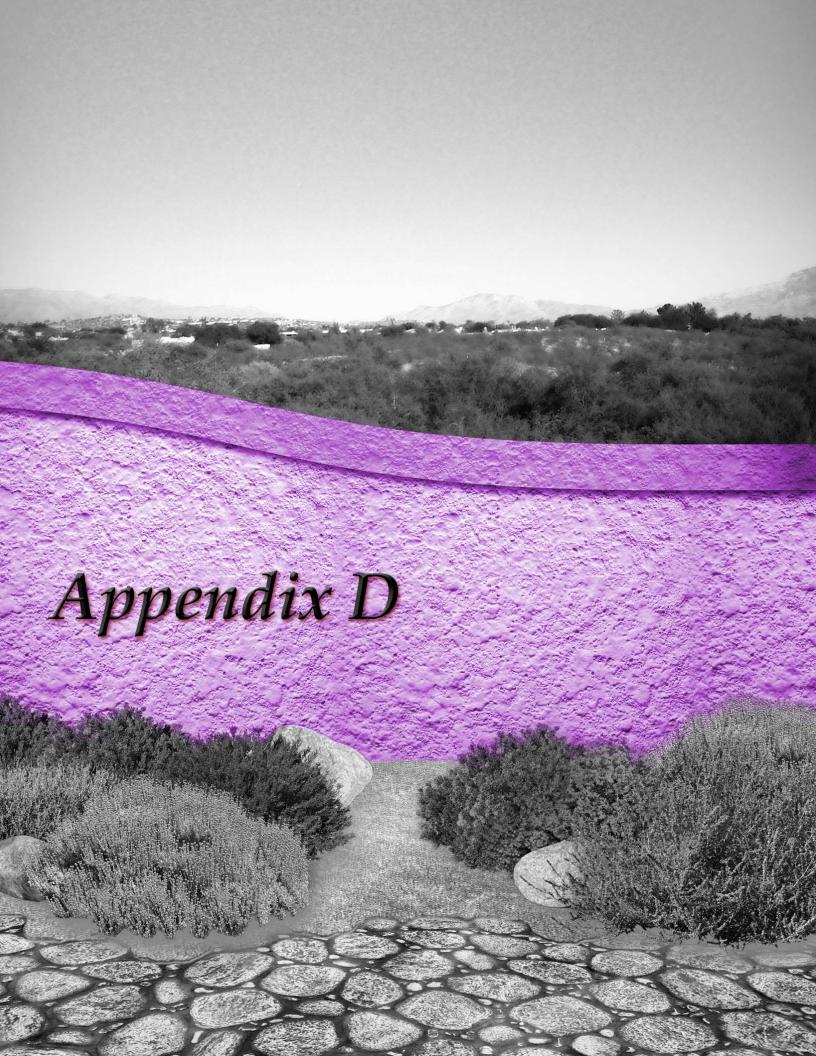
		Caliper	Height	In-situ		Transplant	
.D.#	Botanical Name	•	Feet	Viability	Notes	Rating	Notes
313	Cercidium microphyllum	14	9	M	some dead wood	L	transplanted for prior NPPP
	Cercidium microphyllum	10	12	M	some dead wood	L	transplanted for prior NPPP
	Cercidium microphyllum	14	9	М	some dead wood	L	transplanted for prior NPPP
316	Cercidium microphyllum	8	7	М	some dead wood	L	transplanted for prior NPPP
	Cercidium microphyllum	16	10	L	transplanted for prior NPPP	L	
318	Prosopis velutina	20	12	L	dead wood, insects, mistletoe	L	large
319	Cercidium microphyllum	10	7	М	some dead wood	L	
320	Cercidium microphyllum	10	8	L	transplanted for prior NPPP	L	
	Cercidium microphyllum	8	8	L	transplanted for prior NPPP	L	
	Prosopis velutina	18	14	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	26	14	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	28	12	L	dead wood, insects, mistletoe	L	large
325	Prosopis velutina	20	12	L	dead wood, insects, mistletoe	L	large
326	Cercidium microphyllum	12	8	М	some dead wood	L	transplanted for prior NPPP
327	Cercidium microphyllum	14	10	L	transplanted for prior NPPP	L	
328	Prosopis velutina	16	14	L	dead wood, insects, mistletoe	L	large
329	Acacia constricta	8	7	М	some dead wood	L	transplanted for prior NPPP
330	Cercidium microphyllum	16	10	М	some dead wood	L	transplanted for prior NPPP
331	Prosopis velutina	20	14	L	dead wood, insects, mistletoe	L	large
332	Cercidium microphyllum	12	10	L	transplanted for prior NPPP	L	
333	Prosopis velutina	18	12	L	dead wood, insects, mistletoe	L	large
334	Acacia greggii	18	12	М	some dead wood	L	large
335	Prosopis velutina	30	16	L	dead wood, insects, mistletoe	L	large
336	Prosopis velutina	26	12	L	dead wood, insects, mistletoe	L	large
337	Prosopis velutina	28	16	L	dead wood, insects, mistletoe	L	large
338	Prosopis velutina	20	14	L	dead wood, insects, mistletoe	L	large
339	Prosopis velutina	28	18	L	dead wood, insects, mistletoe	L	large
340	Zizyphus obtusifolia	2	7	М	some dead wood	L	interference
1000	Cercidium floridum	18	16	Н		L	large
	Prosopis velutina	20	12	L	dead wood, insects, mistletoe	L	large
343	Cercidium floridum	28	18	Н		L	
344	Cercidium floridum	4	12	Н		L	
	Cercidium floridum	16	18	L	dead wood	L	large
	Prosopis velutina	18	16	<u>L</u>	dead wood, insects, mistletoe	L	large
	Prosopis velutina	30	18	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	26	18	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	26	18	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	14	12	L	dead wood, insects, mistletoe	L	
351	Prosopis velutina	30	16	L	dead wood, insects, mistletoe	L	large

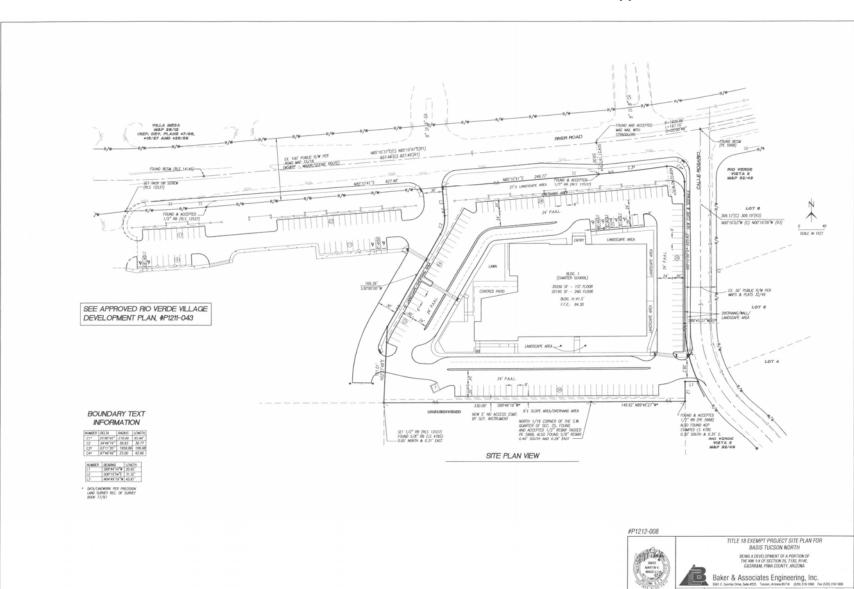
		Caliper	Height	In-situ		Transplant	
D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
	Cercidium floridum	4	6	Н		Н	
357	_Acacia constricta	3	7	Н		Н	
358	_Acacia constricta	3	7	M	some dead wood	L	
361	Zizyphus obtusifolia	3	7	M	some dead wood	L	cut bank
362	_Acacia greggii	3	7	Н		L	interference
363	Prosopis velutina	4	7	L	dead wood, insects	L	
364	Cercidium floridum	14	14	М	some dead wood, insects	L	bad base
365	Prosopis velutina	14	12	L	damage, dead wood	L	
366	Acacia greggii	16	14	Н		L	sprawl
367	Acacia greggii	6	12	Н		L	sprawl
368	Zizyphus obtusifolia	2	7	М	some dead wood	L	access
369	Prosopis velutina	12	10	L	dead wood, insects	L	
	Prosopis velutina	24	14	L	dead wood, insects	L	large
	Prosopis velutina	10	10	L	dead wood, insects	L	interference
	Zizyphus obtusifolia	3	7	М	some dead wood	L	interference
	Prosopis velutina	14	12	М	some dead wood, insects	L	interference
	Prosopis velutina	14	14	L	dead wood, insects	L	interference
375	Prosopis velutina	16	12	L	dead wood, insects	L	interference
	Prosopis velutina	4	9	L	dead wood, insects	L	interference
377	Prosopis velutina	10	12	L	dead wood, insects	L	
378	Prosopis velutina	8	12	L	dead wood, insects	L	interference
	Acacia constricta	4	8	М	some dead wood	L	
380	Prosopis velutina	6	6	L	dead wood, insects	L	bad base
	Acacia greggii	18	14	Н		L	sprawl, large
	_Acacia greggii	2	6	Н		L	interference
	Prosopis velutina	24	14	L	dead wood, insects, mistletoe	L	large
	Zizyphus obtusifolia	2	6	М	some dead wood	L	interference
	Prosopis velutina	10	9	L	dead wood, insects	L	bad base
	Condalia warnockii	3	6	Н	-	М	
387	Celtis pallida	10	8	М	some dead wood	L	sprawl
	Acacia greggii	8	7	М	some dead wood	L	
	Prosopis velutina	10	12	L	dead wood, insects	L	leaning
	Prosopis velutina	16	14	L	dead wood, insects	L	bad base
	Acacia greggii	14	14	L	dead wood, insects	L	pack-rat midden
	Prosopis velutina	20	16	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	24	16	L	dead wood, insects, mistletoe	L	large
	Prosopis velutina	30	16	L	dead wood, insects, mistletoe	L	large
	Zizyphus obtusifolia	4	7	Н		L	interference
	Acacia constricta	12	8	Н		L	on cut bank

		Caliper	Height	In-situ		Transplant	
I.D.#	Botanical Name		Feet	Viability	Notes	Rating	Notes
397	Acacia greggii	6	6	Н		M	
398	Prosopis velutina	30	14	L	dead wood, insects, mistletoe	L	large
399	Condalia warnockii	2	5	Н		Н	
400	Condalia warnockii	4	7	Н		Н	
401	Zizyphus obtusifolia	2	6	М	some dead wood	L	
402	Prosopis velutina	20	12	L	dead wood, insects	L	large
	Celtis pallida	12	8	Н		L	large
404	Cercidium floridum	16	12	Н		M	
405	Acacia greggii	8	7	М	some dead wood	L	
406	Prosopis velutina	24	16	L	dead wood, insects, mistletoe	L	large
407	Prosopis velutina	24	16	L	dead wood, insects	L	large
408	Acacia greggii	3	7	M	some dead wood	Ĺ	
409	Prosopis velutina	30	16	L	dead wood, insects	L	large
410	Prosopis velutina	24	16	L	dead wood, insects	L	large
411	Acacia constricta	6	10	L	dead wood, insects	L	
412	Acacia greggii	6	8	М	some dead wood	L	sprawl
413	Acacia greggii	8	8	М	some dead wood	L	interference
414	Prosopis velutina	24	14	L	dead wood, insects	L	large
415	Acacia constricta	3	8	М	some dead wood	L	
416	Acacia greggii	4	7	М	some dead wood	L	interference
	Acacia constricta	6	8	L	dead wood, insects	L	interference
418	Prosopis velutina	20	14	L	dead wood, insects	L	bad base
419	Prosopis velutina	26	16	L	dead wood, insects	L	large
420	Zizyphus obtusifolia	3	6	М	some dead wood	L	
	Acacia greggii	16	14	М	some dead wood	L	sprawl
422	Acacia greggii	6	12	М	some dead wood	L	
	Prosopis velutina	14	10	L	dead wood, insects	L	
424	Prosopis velutina	24	14	L	dead wood, insects	L	bad base
425	Acacia constricta	2	7	Н		L	on cut bank

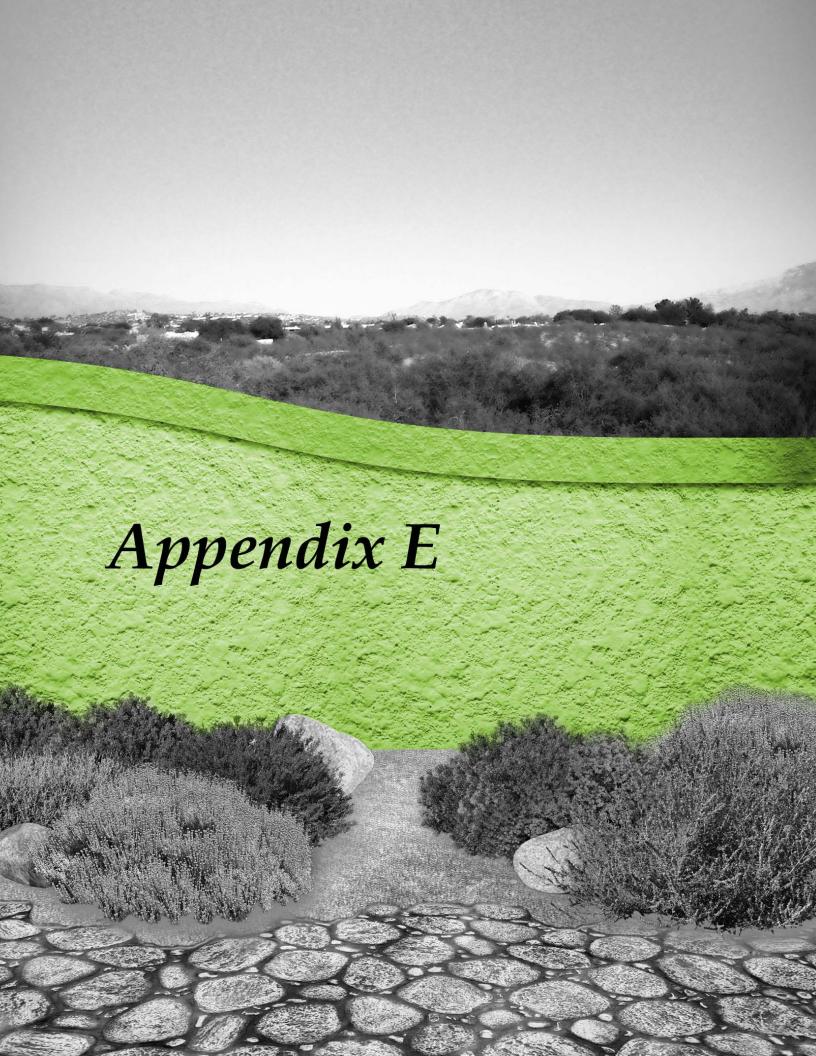


*Please see inside pocket cover. The contents include a CD containing all City Code References pertaining to this document.





Appendix D: Basis School Site Plan



TRAFFIC STUDY

for

RIO VERDE PAD ALONG RIVER ROAD AND CRAYCROFT ROAD

June 2012

Prepared for:

Broadway Realty and Trust, Inc.

Prepared by:



333 E Wetmore Road, Suite 280 Tucson, Arizona 85705 (520) 615-9191



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I. INTRODUCTION

INTRODUCTION

This report documents planning-level traffic analyses prepared for the southeast corner of River Road and Craycroft Road in the City of Tucson, Arizona. A Planned Area Development (PAD) is being submitted for this corner consisting of mixed use retail, restaurants, hotel and offices on the west portion of the property and residential on the eastern portion, totaling approximately 40.3 acres.

This traffic study focuses primarily on the adjacent roadways and available capacity on a planning level. Due to the proximity of the River Road / Craycroft Road intersection, additional intersection analysis was prepared for that intersection to identify possible improvements. However, this report does not constitute a full Traffic Impact Analysis and a more detailed report based on the *Transportation Access Management Guidelines for the City of Tucson* will be necessary as development plans are submitted. The specific objectives of this study are to:

- (1) Document existing (2012) conditions and level of service data for the major roadways providing access and frontage to the development as well as the River Road / Craycroft Road intersection;
- (2) Estimate the build-out year (2017) conditions and level of service data for the major roadways providing access and frontage to the development as well as the River Road / Craycroft Road intersection; and
- (3) Recommend improvements to accommodate the proposed development.



II. PLANNED DEVELOPMENT

SITE LOCATION

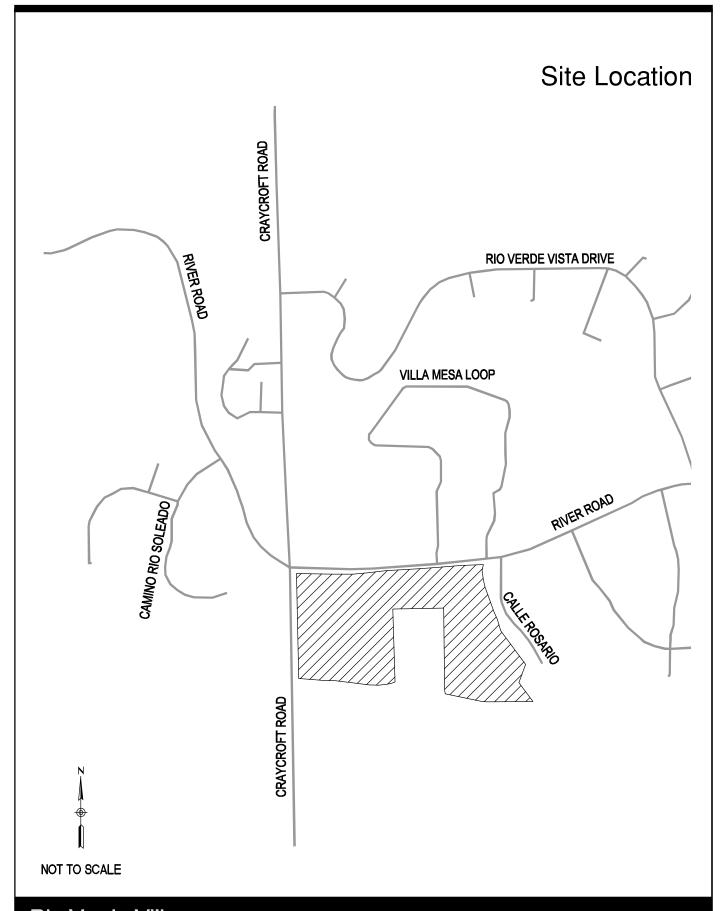
The planned development is located at the intersection of River Road and Craycroft Road in the City of Tucson, Arizona. The project location is shown in **Exhibit 1**.

SITE PLAN

The development is planned to consist of mixed use retail, restaurants, hotel and office space on the western portion of the property (Market District), and residential uses on the eastern portion of the property (Manor District). While the focus of this submittal is zoning only, a conceptual site plan is shown in **Exhibit 2** to illustrate a potential layout of uses. As shown, driveways along both River Road and Craycroft Road will provide access to the site. Three driveways on River Road and two driveways on Craycroft Road will provide access to the Market District. A separate intersecting roadway along River Road will provide access to the residential uses within the Manor District. The Manor District will have cross access through the Market District to allow for access to Craycroft Road.

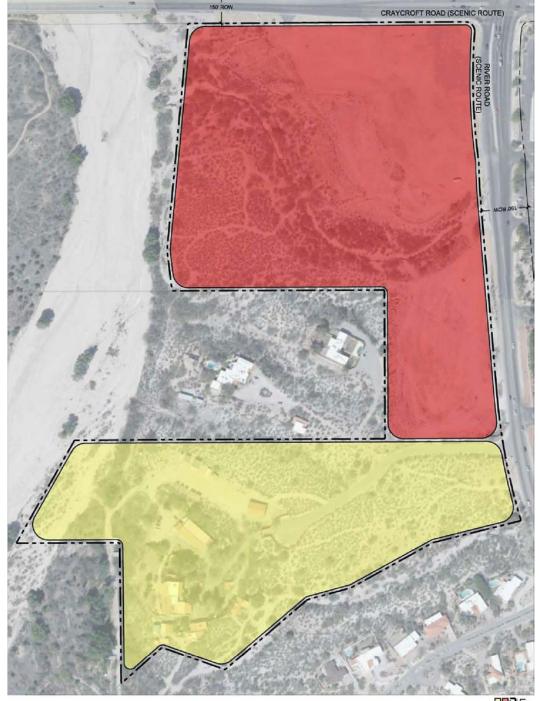
ADJACENT LAND USE

Land uses near the planned development consist of shopping center and multi-family residential uses north of the site, single-family residential uses east and west of the site, and the Tanque Verde Creek to the south. At the southeast corner of the Craycroft and River Road and as part of the PAD a new gas station and charter school are being built.





Site Plan



Legend
Site Boundary
Rio Verde Commons District
Rio Verde Manor District





III. EXISTING CONDITIONS

PHYSICAL CHARACTERISTICS

The existing roadway network within the project vicinity includes River Road and Craycroft Road. Based on the Pima County Geographic Information System (GIS) and the Federal Highway Administration's Functional Classification Map for Pima County, River Road is classified as an Urban Minor Arterial. South of River Road, Craycroft Road is classified as an Urban Principal Arterial. North of River Road, Craycroft Road is classified as an Urban Minor Arterial. According to the Pima County Major Streets and Routes Map, both River Road and Craycroft Road are classified as a Scenic Major Route.

The following is a summary of the roadways within the vicinity of the planned development.

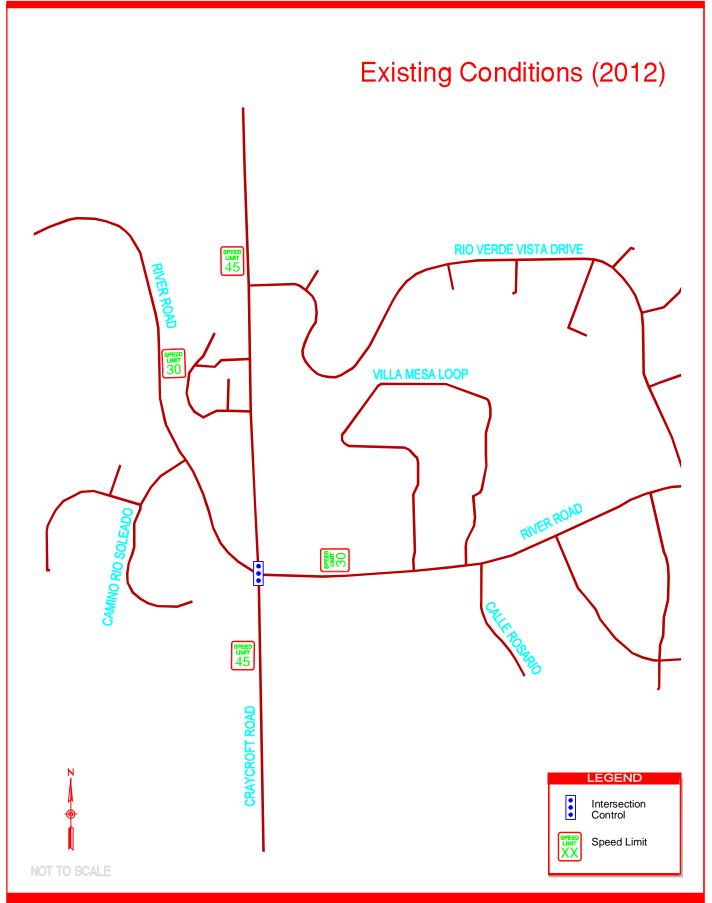
River Road, in the vicinity of the site, is a two-lane roadway with a center left-turn lane near the eastern half of the site. Near the intersection with Craycroft Road, the center left-turn lane transitions into a raised median and additional turn lanes are provided. The roadway provides curb along the north side east of Craycroft Road and along portions of the site frontage on the south side east of Craycroft Road. A dedicated striped bike lane is provided along the entirety of River Road. Sidewalk is not provided along the site frontage. The posted speed limit is 30 miles per hour.

At the River Road / Craycroft Road intersection, there are two dedicated westbound left-turn lanes and one dedicated westbound right-turn lane. The facility provides a raised center median at the River Road / Craycroft Road intersection. The median terminates at the first driveway on the north side of River Road.

Craycroft Road, in the vicinity of the site, is a four-lane roadway with a striped median south of River Road and a raised median north of River Road. At the River Road / Craycroft Road intersection, Craycroft Road provides dedicated left-and right-turn lanes on both approaches. The facility provides curb south of River Road. A dedicated striped bike lane is provided along the entire length of Craycroft Road within the study area. Sidewalks are provided on the west side of the roadway both north and south of River Road but not along the site frontage. The posted speed limit is 45 miles per hour.

A graphical illustration of existing intersection laneage, traffic control, and posted speed limits in the vicinity of the planned development is shown in **Exhibit 3**.





Rio Verde Village



PLANNED IMPROVEMENTS

The Pima Association of Governments (PAG), Pima County, and City of Tucson Transportation Improvement Programs (TIP) for the years 2012-2015 were reviewed to identify any improvement projects within the study area. As of the printing of this report, no roadway improvements are currently proposed within the study area. The 2030 Regional Transportation Plan adopted June 29, 2006 has proposed that River Road be widened to four lanes from Alvernon Way to Sabino Canyon Road.

TRAFFIC VOLUMES

For planning purposes, each of the study area roadways were evaluated for capacity and existing daily traffic volumes. This evaluation will help identify the available capacity of the adjacent streets and their ability to support the development. **Exhibit 4** shows the existing characteristics of each roadway. As shown, Craycroft Road has available capacity although it is currently approaching the current capacity of the 4-lane configuration south of River Road. Traffic volumes along River Road are above or near the current capacity of the 2-lane configuration.

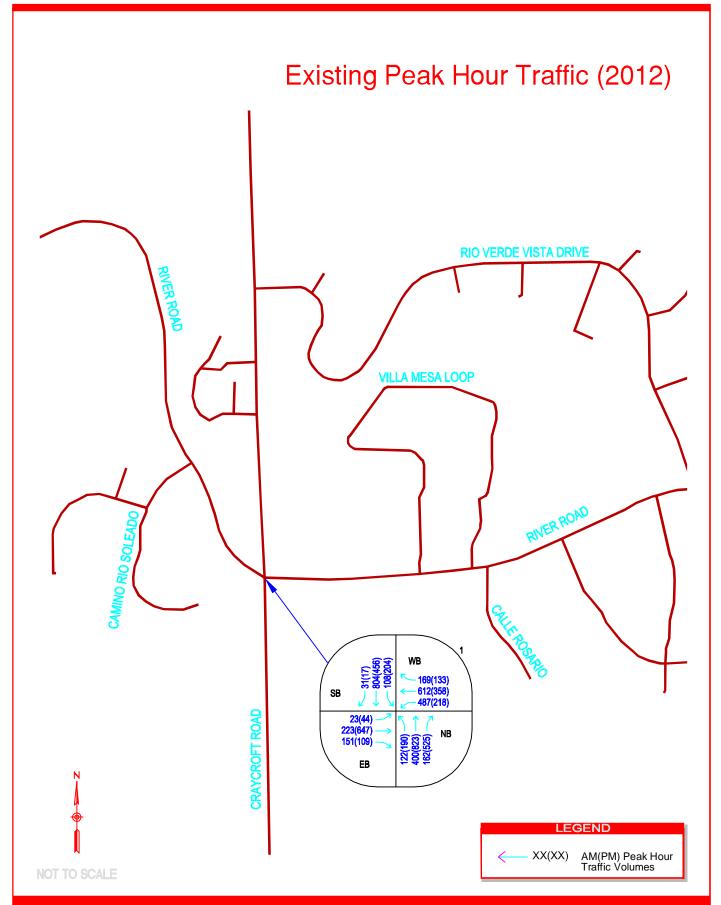
EXHIBIT 4 – EXISTING ROADWAY CHARACTERISTICS

Roadway	Current Functional Class	Number of Lanes	Median Type	Current Daily Traffic Volume (vehicles/day)	Estimated Capacity* (vehicles/day)	Posted Speed Limit (mph)
River Road (east of Craycroft)	Urban Minor Arterial	2	CLTL	18,400	16,380	30
River Road (west of Craycroft)	Urban Minor Arterial	2	None	15,300	15,600	30
Craycroft Road (south of River Road)	Urban Principal Arterial- Other	4	Striped Median	30,600	32,900	45
Craycroft Road (north of River Road)	Urban Minor Arterial	4	Raised Median	13,300	32,900	45

^{*} Roadway capacity is based on the Florida Department of Transportation Level of Service Handbook

In addition to the daily traffic volumes, Field Data Services of Arizona, Inc. collected peak period turn movement counts on November 10, 2010 at the River Road / Craycroft Road intersection, the River Road / Swan Road intersection, and the Craycroft Road / Glenn Street intersection. Traffic count data can be found in the **Appendix**. Count data was reviewed and determined to be representative of existing conditions. Existing AM and PM peak hour traffic volumes are shown in **Exhibit 5**. The first submittal for this report was in November 2010. The final submittal has revised the count data from November 2010 and added a 1% growth rate per year based on the most recent PAG regional data. The count data has been revised to include the new gas station and charter school which were approved by Pima County and are in construction at this time.







IV. PROJECTED TRAFFIC

SITE TRAFFIC FORECASTS

Trip Generation

The Institute of Transportation Engineers' (ITE) *Trip Generation*, 8^{th} *Edition*, was used to obtain daily and peak hour trip generation rates and inbound-outbound percentages, which were then used to estimate the number of daily and peak hour trips that can be attributed to the planned development. For purposes of analysis, it was assumed that the entire development would be completed by the build-out year (2017).

It should be noted that the City of Tucson zoning designations used within the PAD are typically much more encompassing than the specific trip generation codes from ITE. For planning purposes, the Market District was divided into four uses compatible with land use codes from ITE. It was assumed that the Market District would be developed with offices, restaurants, retail and a hotel. The Manor District was assumed to consist of multi-family residential units for highest density analysis.

While the entire future development uses are not determined at this time and future traffic analysis will be provided. The Rio Verde PAD is approximately 40.3 acres. The PAD has two districts the Market District for commercial development on the west portion of the land and the Manor District for residential on the east portion of the property. The Market District would include approximately 70,000 square feet of retail uses, 50,000 square feet of office, 14,800 square feet a restaurant and a 53,000 square feet hotel. The Manor District has four concepts. Concept A is for a Green Court and Residential Care facility with thirty-three (33) units. Concept B is for Residential Care Facility with one hundred and thirty-six (136) beds. Concept C is sixty (60) single family residential units. The final Concept is D which is with Multi-family residential with one hundred and forty (140) dwelling units. The traffic analysis will use Concept D which will have the highest trip generation for the analysis.

In the future for any development to move forward to construction, a more detailed traffic impact studies will be needed to further refine the land uses and determine whether the intensities are compatible with these assumptions.

Trip generation characteristics for the site are shown in **Exhibit 6**.



EXHIBIT 6 – TRIP GENERATION (BUILD-OUT)

Land Uses	Intensity	Units	Daily Total	AM Peak			PM Peak		
Land Oses	intensity	Ullits	Daily Total	In	Out	Total	In	Out	Total
Apartment (Manor Distrct)	140	DU	972	14	58	72	62	33	95
General Office Building	50	1000 SF	782	95	13	108	23	112	135
Shopping Center	70	1000 SF	5,386	76	49	125	245	256	501
Hotel	100	Rooms	522	25	16	41	31	28	59
Quality Restaurant	15	1000 SF	1,331	6	6	12	74	37	111
Subtotal			8,993	217	141	358	436	465	901
Pass-By (Varies)*			8,993	0	0	0	115	103	218
Internal Capture (ITE Retail to Retail)				16	16	32	49	49	98
Total			8,993	201	125	326	271	314	585
*Pass-By Percentages: Restaurant 43% PM only; Sh	only								

Apartment ITE 8th Edition: Daily AM Peak Hour PM Peak Hour	220 T = 6.06(Dwelling Units) + 123.56 T = 0.49*(Dwelling Units) + 3.73 T = 0.55(Dwelling Units) + 17.65	50% [¶] in 20% In 65% In	50% Out 80% Out 35% Out
General Office Bu	<u> </u>		
Daily AM Peak Hour PM Peak Hour	710 Ln(T) = 0.77*Ln(1000's of SF)+3.65 Ln(T) = 0.8*Ln(1000's of SF)+1.55 T = 1.12*(1000's of SF)+78.81	50% 1 n 88% In 17% In	50% Out 12% Out 83% Out
Shopping Center ITE 8th Edition: Daily AM Peak Hour PM Peak Hour	820 Ln(T) = 0.65 Ln(1000's of SF) + 5.83 Ln(T) = 0.59 Ln(1000's of SF) + 2.32 Ln(T) = 0.67 Ln(1000's of SF) + 3.37	50% 1 n 61% In 48% In	50% Out 39% Out 52% Out
Hotel ITE 8th Edition: Daily AM Peak Hour PM Peak Hour	310 T = 8.95*(No. of Rooms)-373.16 Ln(T) = 1.24*Ln(No. of Rooms)-2 T = 0.59*(No. of Rooms)	50% [¶] n 58% In 49% In	50% Out 42% Out 51% Out
Quality Restauran ITE 8th Edition: Daily AM Peak Hour PM Peak Hour	t 931 T = 89.95*(1000's of SF) T = 0.81*(1000's of SF) T = 7.49*(1000's of SF)	50% 1 n 50% In 67% In	50% Out 50% Out 33% Out

The trip generation for the opening year results in 8,993 daily trips, with 326 trips occurring in the AM peak hour and 585 trips occurring in the PM peak hour.

Directional Distribution

Daily and peak hour site generated trips were distributed based on existing travel patterns and anticipated employment opportunities and other origins/destinations. The directional distribution of the projected traffic is illustrated in **Exhibit 7**.

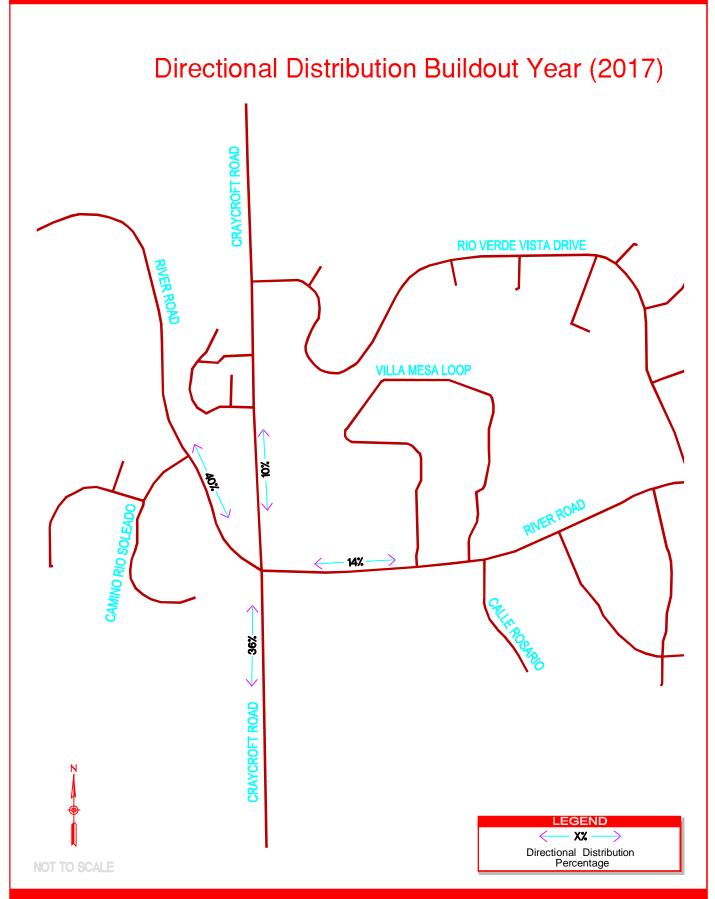
BACKGROUND TRAFFIC

Recent daily traffic volumes obtained from Pima Association of Governments (PAG) *Traffic Volumes in Metropolitan Tucson and Eastern Pima County* Maps were reviewed in an effort to forecast future



volumes in the vicinity of the site. The available PAG traffic volume data indicates 30,000 vehicles per day (vpd) along Craycroft Road between River Road and Grant Road in 2006, and 18,000 vpd along River Road between Craycroft Road and Sabino Canyon Road. The most recent PAG regional model data indicates approximately 38,000 vpd along Craycroft Road south of River Road, and 22,000 vpd along River Road east of Craycroft Road in 2040. Based on this data, the average annual future growth rate is 1 percent. The opening year (2017) background traffic will also include trips generated from Quick Trip gas station and BASIS School documented in prior traffic studies.





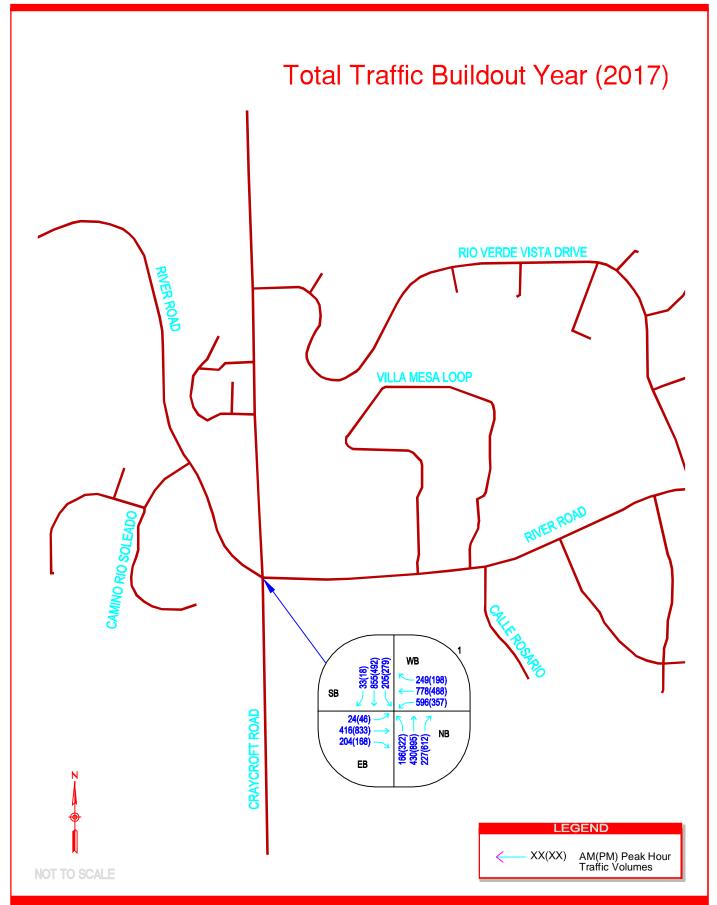
Rio Verde Village



PEAK HOUR TRAFFIC

In addition to evaluating the changes to daily traffic volumes on the study area roadways, a preliminary analysis of peak-hour traffic volumes at the River Road / Craycroft Road intersection was prepared to identify improvements. **Exhibit 8** shows the total traffic volumes expected in Year 2017 at the River Road / Craycroft Road intersection. As previously mentioned, these peak-hour estimates were based on general land use assumptions and more detailed traffic impact analyses will be necessary as development plans are submitted.







V. TRAFFIC AND IMPROVEMENT ANALYSIS

ARTERIAL LEVEL OF SERVICE

All area roadways were evaluated for build-out year (2017) level of service based on future traffic projections and future roadway capacities. Included in the future projection is a 1 percent annual growth rate which accounts for additional growth and development beyond this project. **Exhibit 9** shows the study area roadways and the future traffic volumes and level of service.

EXHIBIT 9 – ARTERIAL LEVEL OF SERVICE ANALYSIS (2017)

Estimated Daily Site-

		Estimated	Daily Site-			
		Future Daily	Generated	Total Daily	Estimated	
	Number of	Traffic Volume	Traffic Volume	Traffic Volume	Capacity	Level of
Roadway	Lanes	(vehicles/day)	(vehicles/day)	(vehicles/day)	(vehicles/day)	Service
River Road (east of Craycroft)	2	20,586	1,259	21,845	16,380	F
River Road (west of Craycroft)	2	17,784	3,597	21,381	15,600	F
Craycroft Road (south of River Road)	4	33,464	3,237	36,702	32,900	F
Craycroft Road (north of River Road)	4	14,503	899	15,403	32,900	C or better

As stated previously, Craycroft Road south of River Road and River Road west of Craycroft Road were both approaching capacity under existing conditions. River Road east of Craycroft Road exceeded capacity under existing conditions. With the increase in future traffic and the addition of the planned development, three of the four roadway segments are anticipated to operate at a level of service of F without additional capacity improvements.

It should be noted that the above analysis is an arterial analysis of daily traffic volumes and does not address traffic operational issues at intersection locations. These impacts and associated improvements will be evaluated during subsequent intersection level-of-service analysis.

INTERSECTION LEVEL OF SERVICE

The existing River Road / Craycroft Road intersection was evaluated based on future peak-hour traffic projections. The intersection was analyzed using Synchro 7.0 which utilizes the methodologies outlined in the *Highway Capacity Manual 2010*. The results of the traffic analysis are shown in **Exhibit 10**.

EXHIBIT 10 – 2017 INTERSECTION LEVEL OF SERVICE ANALYSIS (EXISTING INTERSECTION CONFIGURATION)

Local		EB			WB			NB		SB		Intersection	Traffic	
Intersection	L	T	R	L	Т	R	L	T	R	L	Т	R	LOS	Control
River Road / Craycroft Road														
AM Peak Hour	В	D	Α	С	С	Α	С	С	Α	В	С	Α	С	Signalized
PM Peak Hour	В	D	Α	С	С	Α	С	D	D	F	D	В	D	Signanzeu

As shown, it is anticipated that the existing River Road / Craycroft intersection will operate at LOS C in the AM peak hour and LOS D in the PM peak hour in opening year of 2017. All intersection movements will operate at LOS D or better except for southbound left-turn which operates at LOS F with a single turn lane during PM peak hour. Improved intersection geometry with dual left-turn lanes on all four approaches was then evaluated and the results of LOS are shown in **Exhibit 11**. As a result, the dual left-turn lanes on northbound and southbound approaches significantly improve the traffic operation.



EXHIBIT 11 – 2017 INTERSECTION LEVEL OF SERVICE ANALYSIS (IMPROVED INTERSECTION CONFIGURATION)

Local		EB			WB			NB		SB		Intersection	Traffic	
Intersection	L	Т	R	L	Т	R	L	Т	R	L	Т	R	LOS	Control
River Road / Craycroft Road														
AM Peak Hour	В	D	В	С	С	Α	В	С	Α	В	С	Α	С	Signalized
PM Peak Hour	В	D	Α	В	С	Α	В	D	С	С	С	Α	С	Signalized

FUTURE ROADWAY CROSS-SECTIONS

The following describes future improvements to the existing roadway cross-sections adjacent to the site to accommodate the proposed development.

River Road

Traffic projections for River Road east of Craycroft Road result in over capacity operations. As such, it is important that improvements be provided that add capacity and manage access points in order to minimize potential conflicts and additional congestion. The existing center left-turn lane should be maintained to provide left-turn access to land uses on both the north and south sides of River Road. However, opportunities to limit outbound left-turns from parcels should be evaluated. In addition, it is recommended that the second eastbound through lane at the signalized intersection be extended along the frontage of the study area to allow for safer merging opportunities as well as right-turn access into the site. As future development of the PAD moves forward and traffic analysis is performed a potential modification for the roadway would be the construction of a four lane cross section with right turns and left turn lanes along the River Road frontage from Craycroft to Calle Rosario.

Cravcroft Road

It is recommended that the striped median that currently exists on Craycroft Road south of River Road be re-striped to provide a center left-turn lane. This will allow left-turn access into and out of the site for southbound traffic, which will help reduce the southbound left-turn and westbound left-turn traffic at the River Road and Craycroft Road intersection. Right-turn lane improvements should also be evaluated during the development plan stage. These turn lanes would remove the right-turning vehicles from the through lanes thereby minimizing the impact to through volumes which are near capacity.



VI. CONCLUSIONS AND RECOMMENDATIONS

This analysis has provided an overview of the traffic operations and the recommended improvements for the proposed retail, office, restaurants, hotel and residential development located along River Road and Craycroft Road in the City of Tucson, Arizona. The Planned Area Development will consist of mixed use retail, hotel, restaurants and offices on the west half of the property and residential on the eastern half, totaling 40.3 acres. Following are the major conclusions of this analysis:

- The PAD has two districts the Market District for commercial development on the west portion of the land and the Manor District for residential on the east portion of the property. The Market District would include approximately 70,000 square feet of retail uses, 50,000 square feet of office, 14,800 square feet a restaurant and a 53,000 square feet hotel. The Manor District has four concepts. Concept A has is for a Green Court and Residential Care facility with thirty-three (33) units. Concept B is for Residential Care Facility with one hundred and thirty-six (136) beds. Concept C is sixty (60) single family residential units. The final Concept is D which is with Multi-family residential with one hundred and forty (140) dwelling units. The planning level traffic analysis has used Concept D which will have the highest trip generation for the analysis. During the development plan stage, more detailed traffic impact studies will be needed to further refine the land uses and determine whether the intensities are compatible with these assumptions.
- Based on current traffic volumes, Craycroft Road has available capacity although it is currently approaching the current capacity of the 4-lane configuration north of River Road. Traffic volumes along River Road are above or near the current capacity of the 2-lane configuration.
- Trip generation for the planned uses results in 8,993 daily trips, with 326 trips occurring in the AM peak hour and 585 trips occurring in the PM peak hour.
- Based on future (2017) evaluation of the daily traffic volumes, all roadway segments are anticipated to operate over capacity levels, with the exception of Craycroft north of River Road.
- The existing River Road / Craycroft Road intersection was evaluated on the basis of future peak-hour traffic projections. The intersection will operate at LOS C in the AM peak hour and LOS D in the PM peak hour. The southbound left-turn will operate at LOS F in PM peak hour. The intersection will need dual left-turn lanes for northbound and southbound approaches by 2017.
- Preliminary analysis indicates that the existing center left turn lane along River Road east of Craycroft should be maintained to provide left-turn access to land uses on both the north and south sides of River Road. However, opportunities to limit outbound left-turns from parcels should be evaluated and may require median or a diverter. In addition, it is recommended that the second eastbound through lane at the signalized intersection be extended along the frontage of the study area to allow for safer merging opportunities as well as right-turn access into the site.
- It is recommended that the striped median that currently exists on Craycroft Road south of River Road be re-striped to provide a center left-turn lane. This will allow left-turn access into and out of the site for southbound traffic. Right-turn lane improvements should also be evaluated during



the development plan stage.

- It is recommended that the cross access between the Manor District and Market District be maintained. This will allow for access to Craycroft Road for the Manor District and reduce left turn traffic out from Calle Rosario onto River Road.
- It is recommended that the Craycroft Road and River Road intersection be evaluated to allow for u-turns for northbound traffic. This will allow for vehicles to exit onto Craycroft from the development and make a u-turn at the intersection to go south. This will reduce left turn traffic exiting from the development onto River Road to go south on Craycroft Road.
- It is recommended that with the possible full build-out of the PAD with future development that Craycroft Road and River Road intersection be built out to dual-left turn lanes and right turn lanes in all directions. River Road should be built-out to four lanes at the intersection to increase capacity. River Road will require improvements to allow for the transition from the four lane cross section to the two lane roadway east and west of the intersection.
- It is recommended that more detailed traffic reports, Traffic Impact Studies, based on the *Transportation Access Management Guidelines for the City of Tucson* be prepared as development plans are submitted.





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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	† †	7	ሻሻ	^	7	ሻ	^	7	ሻ	^	7
Volume (vph)	24	416	204	596	778	249	166	430	227	205	855	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		215	188		123	314		271	84		256
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.270			0.214			0.138			0.365		
Satd. Flow (perm)	503	3539	1583	773	3539	1583	257	3539	1583	680	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			222			213			247			36
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		693			449			227			608	
Travel Time (s)		15.8			10.2			5.2			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	452	222	648	846	271	180	467	247	223	929	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	452	222	648	846	271	180	467	247	223	929	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24	J		24	J		12	J		12	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	8.0	20.0	20.0	21.0	33.0	33.0	14.0	33.0	33.0	16.0	35.0	35.0
Total Split (%)	8.9%	22.2%	22.2%	23.3%	36.7%	36.7%	15.6%	36.7%	36.7%	17.8%	38.9%	38.9%
Maximum Green (s)	4.0	16.0	16.0	17.0	29.0	29.0	10.0	29.0	29.0	12.0	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.0	16.0	16.0	37.0	29.0	29.0	39.0	29.0	29.0	43.0	31.0	31.0
Actuated g/C Ratio	0.22	0.18	0.18	0.41	0.32	0.32	0.43	0.32	0.32	0.48	0.34	0.34
v/c Ratio	0.15	0.72	0.48	0.79	0.74	0.41	0.65	0.41	0.36	0.47	0.76	0.06
Control Delay	19.8	42.2	8.5	27.7	31.9	8.2	27.4	25.2	4.8	16.6	31.2	7.3

1: River Road & Craycroft Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	42.2	8.5	27.7	31.9	8.2	27.4	25.2	4.8	16.6	31.2	7.3
LOS	В	D	Α	С	С	Α	С	С	Α	В	С	Α
Approach Delay		30.7			26.7			20.0			27.7	
Approach LOS		С			С			В			С	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60 Control Type: Pretimed Maximum v/c Ratio: 0.79 Intersection Signal Delay: 26.3

Intersection Signal Delay: 26.3 Intersection LOS: C
Intersection Capacity Utilization 74.7% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: River Road & Craycroft Road



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	^	7	ሻሻ	^	7	ሻ	^	7	*	^	7
Volume (vph)	46	833	168	357	488	198	322	895	612	279	492	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		215	188		123	314		271	84		256
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.455			0.138			0.221			0.190		
Satd. Flow (perm)	848	3539	1583	499	3539	1583	412	3539	1583	354	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			215			40			20
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		693			449			227			608	
Travel Time (s)		15.8			10.2			5.2			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	905	183	388	530	215	350	973	665	303	535	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	905	183	388	530	215	350	973	665	303	535	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24	Ŭ		24	J		12	Ŭ		12	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		pm+ov	pm+pt		Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	8.0	8.0	20.0	20.0
Total Split (s)	8.0	29.0	29.0	15.0	36.0	36.0	21.0	31.0	15.0	15.0	25.0	25.0
Total Split (%)	8.9%	32.2%	32.2%	16.7%	40.0%	40.0%	23.3%	34.4%	16.7%	16.7%	27.8%	27.8%
Maximum Green (s)	4.0	25.0	25.0	11.0	32.0	32.0	17.0	27.0	11.0	11.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)		5.0	5.0		5.0	5.0		5.0			5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0			0	0
Act Effct Green (s)	29.0	25.0	25.0	40.0	32.0	32.0	42.0	27.0	42.0	32.0	21.0	21.0
Actuated g/C Ratio	0.32	0.28	0.28	0.44	0.36	0.36	0.47	0.30	0.47	0.36	0.23	0.23
v/c Ratio	0.16	0.92	0.32	0.67	0.42	0.31	0.78	0.92	0.88	1.01	0.65	0.05
Control Delay	16.3	47.5	5.7	22.5	23.3	4.3	30.5	45.0	35.1	80.8	35.4	12.1

1: River Road & Craycroft Road

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	47.5	5.7	22.5	23.3	4.3	30.5	45.0	35.1	80.8	35.4	12.1
LOS	В	D	Α	С	С	Α	С	D	D	F	D	В
Approach Delay		39.4			19.4			39.1			50.9	
Approach LOS		D			В			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70
Control Type: Pretimed
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 36

Intersection Signal Delay: 36.8 Intersection LOS: D
Intersection Capacity Utilization 86.7% ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: River Road & Craycroft Road



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	^	7	1,1	^	7	14.54	^	7	1,4	^	7
Volume (vph)	24	416	204	596	778	249	166	430	227	205	855	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		215	188		123	314		271	84		256
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.302			0.227			0.156			0.414		
Satd. Flow (perm)	1091	3539	1583	820	3539	1583	564	3539	1583	1496	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			260			125			36
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		693			449			227			608	
Travel Time (s)		15.8			10.2			5.2			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	452	222	648	846	271	180	467	247	223	929	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	452	222	648	846	271	180	467	247	223	929	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24	J		24	J		24	J		24	J
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt		Perm	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	1	5	2	3	1	6	7

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	8.0	8.0	20.0	8.0	8.0	20.0	8.0
Total Split (s)	8.0	20.0	20.0	21.0	33.0	11.0	11.0	38.0	21.0	11.0	38.0	8.0
Total Split (%)	8.9%	22.2%	22.2%	23.3%	36.7%	12.2%	12.2%	42.2%	23.3%	12.2%	42.2%	8.9%
Maximum Green (s)	4.0	16.0	16.0	17.0	29.0	7.0	7.0	34.0	17.0	7.0	34.0	4.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	None
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	19.0	15.0	15.0	35.3	30.6	41.5	40.9	34.0	54.3	41.1	34.1	42.1
Actuated g/C Ratio	0.22	0.17	0.17	0.40	0.35	0.47	0.46	0.39	0.61	0.47	0.39	0.48
v/c Ratio	0.08	0.75	0.54	0.80	0.69	0.31	0.37	0.34	0.24	0.26	0.68	0.05
Control Delay	17.9	43.6	14.6	28.2	29.0	3.4	14.1	20.5	4.5	12.7	26.0	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	43.6	14.6	28.2	29.0	3.4	14.1	20.5	4.5	12.7	26.0	4.8
LOS	В	D	В	С	С	Α	В	С	Α	В	С	Α
Approach Delay		33.4			24.7			14.8			22.9	
Approach LOS		С			С			В			С	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 88.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord Maximum v/c Ratio: 0.80

Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 70.2% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: River Road & Craycroft Road



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	^	7
Volume (vph)	46	833	168	357	488	198	322	895	612	279	492	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		215	188		123	314		271	84		256
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.455			0.138			0.330			0.148		
Satd. Flow (perm)	1644	3539	1583	499	3539	1583	1193	3539	1583	535	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			193			22			20
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		693			449			227			608	
Travel Time (s)		15.8			10.2			5.2			13.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	905	183	388	530	215	350	973	665	303	535	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	905	183	388	530	215	350	973	665	303	535	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24	_		24	_		24	_		24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	8.0	20.0	8.0	8.0	20.0	8.0	8.0	20.0	8.0
Total Split (s)	12.0	28.0	12.0	18.0	34.0	12.0	12.0	32.0	18.0	12.0	32.0	12.0
Total Split (%)	13.3%	31.1%	13.3%	20.0%	37.8%	13.3%	13.3%	35.6%	20.0%	13.3%	35.6%	13.3%
Maximum Green (s)	8.0	24.0	8.0	14.0	30.0	8.0	8.0	28.0	14.0	8.0	28.0	8.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	30.2	24.0	36.1	40.3	32.2	44.2	35.1	27.1	43.4	35.0	27.0	37.2
Actuated g/C Ratio	0.35	0.27	0.41	0.46	0.37	0.51	0.40	0.31	0.50	0.40	0.31	0.43
v/c Ratio	0.07	0.93	0.26	0.60	0.41	0.24	0.51	0.89	0.83	0.63	0.49	0.03
Control Delay	14.1	48.8	9.1	19.2	22.6	3.5	18.2	40.3	29.3	21.6	26.6	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	48.8	9.1	19.2	22.6	3.5	18.2	40.3	29.3	21.6	26.6	6.6
LOS	В	D	Α	В	С	Α	В	D	С	С	С	Α
Approach Delay		40.9			17.8			32.7			24.4	
Approach LOS		D			В			С			С	
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												
Actuated Cycle Length: 87	7.4											
Natural Cycle: 65												

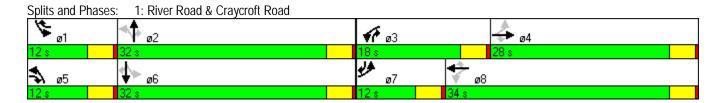
Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

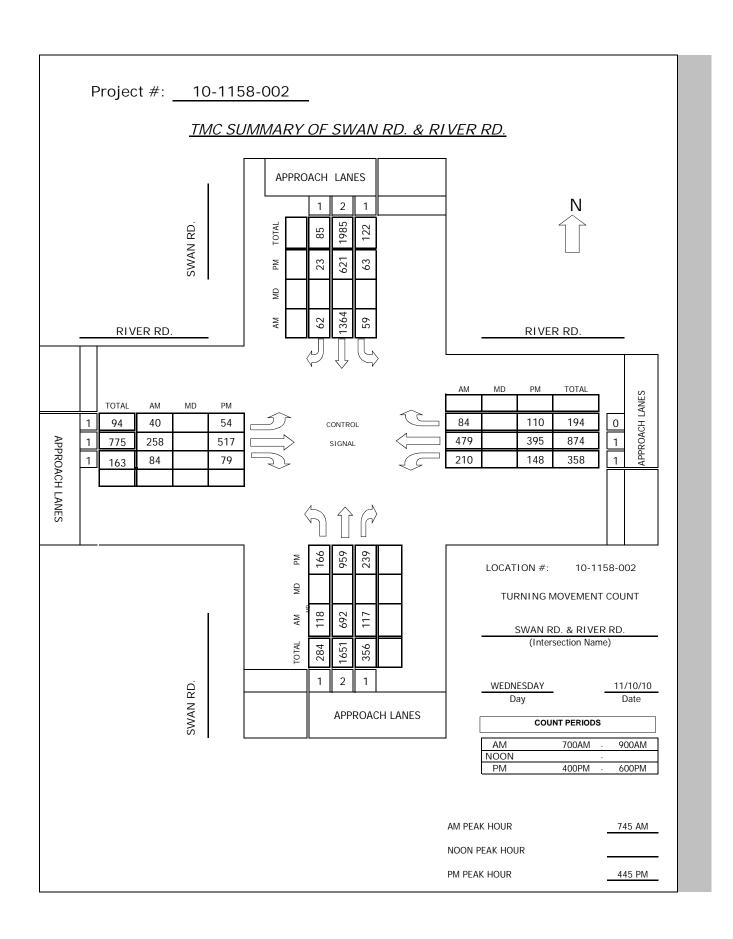
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 79.2% ICU Level of Service D

Analysis Period (min) 15



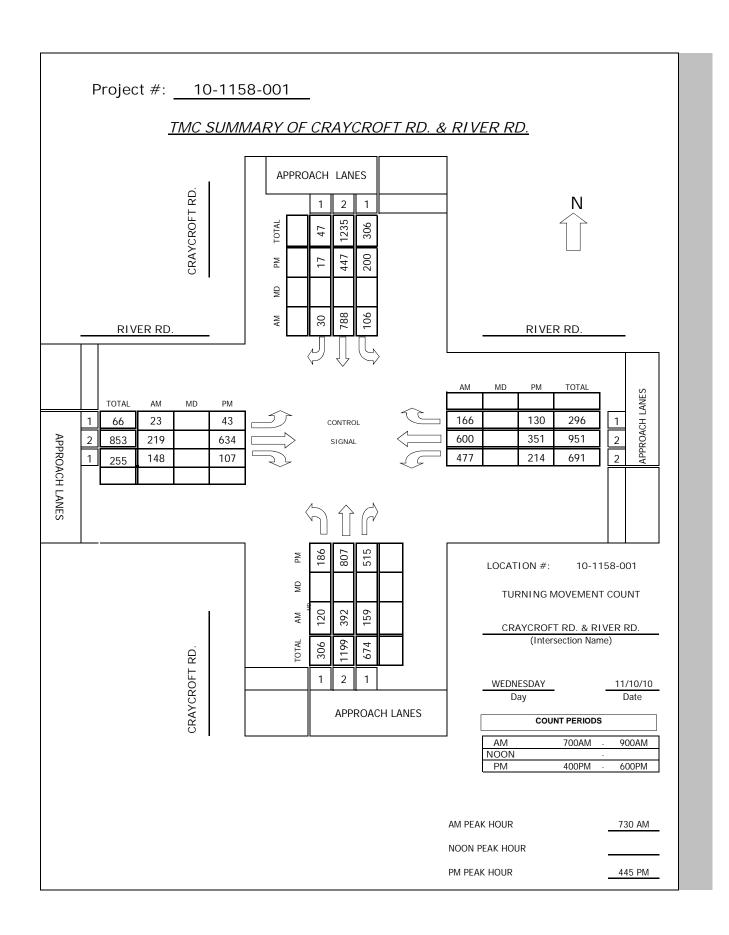
Intersection Turning Movement Prepared by:





Intersection Turning Movement Prepared by:





Intersection Turning Movement Prepared by:



